



# MAGAZINE

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# THE I.C.I. MAGAZINE

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The *I.C.I. Magazine* is published for the interest of all who work in I.C.I., and its contents are contributed largely by people in I.C.I. It is edited by Richard Keane and printed at The Kynoch Press, Birmingham, and is published every month by Imperial Chemical Industries Limited, 26 Doyer Street, London, W.1. Telephone: WEGent 5067-8. The editor is glad to consider articles for publication, and payment will be made for those accepted.

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Front Cover: The Company seal.

## OUR CONTRIBUTORS

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GORDON LONG is well known in the Company not only as the head of the Press Section in Central Publicity Department but as the author of two witty Magazine articles, "How I gave up Smoking" and "How I lost my Hair." He joined the Company in 1936.

DUNCAN H. SHAW joined Paints Division in February 1951 as a draughtsman in the Division Engineering Department. He is interested in diving and swimming (in that order), and he is a member of the swimming team which recently won the Slough Business Houses Relay Cup for I.C.I.

# TWENTY FIVE YEARS AGO

## The Story of the I.C.I. Merger

Just twenty-five years ago there took place the negotiations leading to the formation of the Company on 7th December, 1926. Here for the first time an authentic account of the biggest merger in the history of chemical industry is disclosed.

ON 7th December, 1926, the registrar of companies issued a certificate stating that "Imperial Chemical Industries Limited is this day incorporated under the Companies Acts." It was a simple document of five lines and a signature—about enough to fill an ordinary postcard—but it was I.C.I.'s birth certificate.

How did it come about, on that December morning twenty-five years ago, that I.C.I. was formed? The answer to the question must be sought as far back as the first world war. In 1914 Britain was unable to manufacture the synthetic nitrate for the fertilizers and explosives she needed in wartime and possessed practically no dyestuffs industry; nitrate had to be imported from Chile and dyestuffs from Germany. Those deficiencies might have cost her the war—and those who are familiar with the history of these years will know that they nearly did. By 1918 the crisis had been surmounted, but the





A CONTEMPORARY PICTURE OF THE TWO GREAT LEADERS. *Sir Alfred Mond, chairman of the new company, stands talking to Sir Harry McGowan, president and deputy chairman, at the first meeting of Central Works Council held in London in 1929.*

nation had learned its lesson. Never again must British Empire markets be allowed to be the preserve of the foreigner, or Britain herself—the Empire's cornerstone—allowed again to depend for vital raw materials on countries that might one day become her enemies.

One result was that a leading chemical firm, Brunner, Mond & Co. Ltd., bought the uncompleted Government plant at Billingham and there began the large-scale manufacture of synthetic nitrates. Another result was the rebirth of the dyestuffs industry, which had been born and cradled in Britain but had been allowed to waste away almost to nothing under the pressure of German competition. The latter move was only possible with Government support, and brought some of the leading British dyestuffs interests together in a new state-subsidised organisation, the British Dyestuffs Corporation. The two main foundations on which I.C.I. was reared were Nobel Industries Ltd. and Brunner, Mond & Co., the other two being British Dyestuffs Corporation and the United Alkali Company.

Before the fighting had ceased, several manufacturers in the explosives and allied industries had realised that the change-over to peace would present them with serious problems, as almost all these factories had greatly increased their output

for war purposes. Guided by the wisdom and foresight of Lord (then Sir Harry) McGowan, the managing director of Nobel's Explosives Company, they therefore combined within a few days of the armistice of November 1918 to form Explosives Trades Ltd., which was renamed Nobel Industries Ltd. two years later.

By comparison the United Alkali Company was of a respectable seniority, having been formed as early as 1890 by forty-one concerns, which combined for strength and unity in the face of a much earlier threat to their survival. These companies had been making sodium carbonate by the old Leblanc soda process, which could not compete with the much more economical ammonia-soda process that Brunner Mond had pioneered in England in 1873 and were operating with conspicuous success at their factory at Winnington.

These, then, were the four ingredients of I.C.I.—four large organisations each pursuing its independent aims and existence. Large though they were, they were not large enough. They were faced by a new commercial threat—the growth of the giant chemical combines of Germany and America. In Germany in particular the great I.G. Farben group, which not only manufactured *Farben*, or colours, but also covered nearly every other branch of the chemical industry, was a formidable



## £13,000,000 COMBINE Co-operation of Great British Industries

It was announced last night by the directors of Brunner, Mond and Co., Limited, Nobel Industries, Limited, British Dyestuffs Corporation, Limited, and the United Alkali Company, Limited, that negotiations are in progress for the formation of a new company for the purpose of acquiring by exchange the shares of the four companies and co-ordinating and developing their businesses and resources on broad Imperial lines.

The Boards of the respective companies have passed resolutions agreeing in principle to a scheme the details of which will shortly be settled.

The directors accordingly advise their shareholders not to be influenced by market rumours, but to await the recommendations that are about to be put before them by their respective boards.

This apparently represents the beginning of English industry to adopt the German system of a cartel, with the idea of co-operation to increase efficiency and present a united front against foreign competition.

The capital represented by the four concerns is something like £43,000,000—Brunner, Mond, £15,000,000; Nobel Industries, £18,000,000; British Dyestuffs, £5,500,000; and United Alkali, £4,500,000.

Nobel Industries shares rose by 1s. 1½d. yesterday, and British Dyestuffs 1½d.

## PRAYER BOOK REVISION Private Conference of the Bishops

The Bishops of the Church of England met in private at Lambeth Palace

THE FIRST PRESS ANNOUNCEMENT: *a cutting from the Morning Post of 22nd October, 1926*

opponent because it had all the advantages of the efficient large-scale enterprise. It could avoid wasteful duplication and overlapping, and thus cut down overheads; it had the financial strength to weather commercial and industrial storms, and it could speak with one voice in the markets of the world and quote for orders of any size or variety. Indeed, by 1925 the situation for Britain was beginning to look almost as dangerous as it had in 1914.

The man who saw all this most clearly was Sir Harry McGowan. Early in 1926 Sir Harry was approached by Mr. Reginald McKenna, the then chairman of the Midland Bank, which had sponsored an issue by the British Dyestuffs Corporation of preference shares. Mr. McKenna asked Sir Harry if Nobels would take over British Dyestuffs Corporation; this was refused, and Sir Harry told Mr. McKenna that there was only one hope of avoiding Great Britain becoming a second-class power in heavy chemicals, in a few years, to Germany and America, and that was by the formation of a company to take over the four organisations already referred to.

Sir Alfred Mond and Sir Harry first met in July 1926, when the latter put forward his scheme for an amalgamation of the four companies concerned. Sir Harry had discussed the matter with Lord Ashfield, chairman of the Government-aided British Dyestuffs Corporation, and the merger of interests had Lord Ashfield's commendation. At the first meeting with Sir Alfred Mond, at which some of the directors of Brunner, Mond & Co. were present, no decision was arrived at, Sir Alfred promising to think it over. This was deferred until Sir Harry's return from South Africa, a visit he was due to make shortly.

At this stage drama enters the story. On Sir Harry's return he found that Sir Alfred Mond and some of his co-directors had departed for the U.S.A. and were not likely to be back for some considerable time. More convinced than ever that delay was dangerous, Sir Harry promptly sailed after them, arriving in New York on Friday, 24th September, meeting Sir Alfred the next day. Without more ado they agreed that their two great companies should jointly take the lead in bringing about an alliance in the British chemical industry. With them in New York were some of their fellow directors, Sir John Brunner, Mr. J. G. Nicholson and Col. G. P. Pollitt of Brunner, Mond, and Mr. B. E. Todhunter of Nobel's. The proposal to amalgamate was put before them. They all approved, the last words being spoken at a meeting on the following Sunday morning. The first step in the formation of I.C.I. had been taken.

On 6th October Sir Harry and Sir Alfred, with one or two colleagues, embarked for England in the *Aquitania*. Each day of the return voyage and far into the night they studied ways and means of accomplishing the great task before them. Before the journey was ended their plans had been laid, and a scheme for the amalgamation of Nobel Industries, Brunner Mond, United Alkali and British Dyestuffs Corporation into a new company to be called Imperial Chemical Industries was agreed upon and typed out on Cunard Line paper—the first I.C.I. "document" ever prepared.

Although no one from either United Alkali or the Dyestuffs Corporation was present in New York or on the boat—events had moved too swiftly for that—the proposals were accepted by both companies. The *Aquitania* docked at Southampton on 12th October, and within a few days the boards of directors of all four companies had given their consent to the proposals.

Until then, all negotiations had naturally taken place in private, but rumours were beginning to spread, and it was obviously necessary that news of the forthcoming merger should be made public as soon as possible. On 12th October—Trafalgar Day—a statement was handed to the press saying that negotiations were in progress between the four companies for the formation of a new company to co-ordinate and develop their businesses and resources on broad Imperial lines. It was a brief announcement, but it was followed the next day by a



longer statement from Sir Alfred Mond in which he explained the reasons for the merger, the principles by which they would be guided, and the hopes and intentions for the future.

All the world then knew that a British community of interests comparable with the most powerful foreign chemical combines was about to be brought into being, and surely none could have read about it with more interest than the members of the Imperial Conference who were that very day debating in London the question of how to increase Empire trade. Public opinion was entirely favourable. In most quarters the merger was warmly welcomed, and even in the principal foreign countries there was little sign of hostility. There was a feeling among many that some such development in Britain was inevitable.

Busy days followed. Innumerable details of every kind had to be settled and a host of arrangements made in order to comply with business and legal requirements. But the founders had at their right hand a body of distinguished men versed in every branch of company organisation, and notwithstanding the magnitude of their task all the necessary preparations had been made within a month or so. Here it may be said that the original scheme drafted on the *Aquitania* remained in essence the blueprint on which the structure of the new company was founded.

The feverish activity of November was a prelude to even more strenuous days. Within twenty-four hours of Imperial Chemical Industries being registered its directors held their first board meeting. They were Sir Harry McGowan, Sir Josiah Stamp, Mr. H. J. Mitchell and Mr. B. E. Todhunter, of Nobel's; Sir Alfred Mond, Sir John Brunner, Mr. Henry Mond, Mr. J. G. Nicholson and Colonel G. P. Pollitt, of Brunner Mond; and the Marquis of Reading—the only director from outside the merger companies. Lord Ashfield, chairman of the British Dyestuffs Corporation, was another original director, but he was not present on that day.

The meeting appointed Sir Alfred Mond as chairman and Sir Harry McGowan as president and deputy-chairman, and

*This is not a Prospectus.*

# IMPERIAL CHEMICAL INDUSTRIES, LIMITED.

**AUTHORISED CAPITAL - £85,000,000**

On the assumption that all the shareholders of the participating companies:—

**Brunner, Mond and Co., Limited,  
Nobel Industries, Limited,  
The United Alkali Company, Limited,  
British Dyestuffs Corporation, Limited,**

exchange their holdings of shares, the issued capital of the new Company on the basis of the exchange will be £56,802,996, divided as follows:—

<b>16,219,306—7 per cent. Cumulative Preference Shares of £1 each (Preferential both as to Capital and Dividends)</b>	<b>£ 16,219,306</b>
<b>31,095,555—Ordinary Shares of £1 each</b>	<b>31,095,555</b>
<b>18,976,270—Deferred Shares of 10s. 0d. each</b>	<b>9,488,135</b>
	<b><u>£56,802,996</u></b>

## DIRECTORATE:

The first Directors of the new Company are:

The Right Honourable Sir ALFRED MOND, Bart., P.C., M.P. (Chairman).  
Sir HARRY MCGOWAN, K.B.E. (President and Deputy Chairman).  
The Right Honourable The LORD ASHFIELD, P.C.  
Sir JOHN BRUNNER, Bart.  
G. C. CLAYTON, Esq., C.B.E., M.P.  
H. J. MITCHELL, Esq.  
HENRY MOND, Esq.  
Sir MAX MUSPRATT, Bart.  
J. G. NICHOLSON, Esq.  
Lt.-Col. G. P. POLLITT, D.S.O.  
The Most Honourable The MARQUESS OF READING, P.C., G.C.B., G.C.S.I., G.C.I.E., G.C.V.O.  
JOHN ROGERS, Esq., O.B.E.  
Sir JOSIAH STAMP, G.B.E.  
B. E. TODHUNTER, Esq., O.B.E.

## SECRETARY:

J. H. WADSWORTH.

## TREASURER:

W. H. COATES, LL.B., B.Sc. (Econ.).

I.C.I. MEETS THE WORLD: *some of the official details of the new company as they appeared in The Times of 16th December, 1926*

went on to elect Mr. John Rogers (Nobel's) as another director. The first secretary was Mr. J. H. Wadsworth, of Brunner Mond, and the first treasurer was Mr. W. H. Coates of Nobel's. Many of these men were destined to guide the fortunes of the company for long years to come.

With this first meeting of directors the corporate life of I.C.I. began. What had been no more than a vision a few months before was now a living reality. A new chapter had opened in the industrial history of the British Commonwealth.





TWO RARE PICTURES OF 1926. (ABOVE) *The first meeting of the Board of Directors of I.C.I., all present with the exception of Lord Ashfield. Seated (left to right) Sir John Brunner, Mr. H. J. Mitchell, Sir Harry McGowan, Sir Alfred Mond, Lord Reading, Sir Max Muspratt. Standing (left to right) Sir Josiah Stamp, Mr. B. E. Todhunter, Mr. Henry Mond, Colonel Pollitt, Mr. J. G. Nicholson, Mr. G. C. Clayton.* (BELOW) *A visit of the King, then Duke of York, to Kynoch Works, Witton, in 1926. Mr. H. O. Smith, now Personnel Director, is on the left of the front row.*

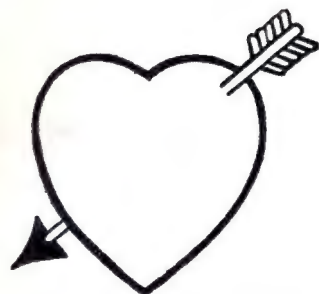




# Information Notes

## TRADE MARKS—THE WHY AND WHEREFOR

By E. L. Duke (Trade Marks Section)



TRADE marks are probably as old as trade itself. Ancient pottery of the Far East and Egyptian civilisation bears unmistakable evidence of distinctive marks used more than 2000 years B.C., which shows that from the earliest times craftsmen and traders recognised the value of marking their wares so that they could be distinguished from those of others.

Until quite recent times almost all trade marks consisted of signs or devices. Even in 1875, when the first British Trade Marks Act came into force, and for a considerable time after this, most of the trade marks registered were for labels bearing pictures or monograms. Over the years many of these have fallen into disuse, but some remain and have been before the public for many generations. No. 1 on the British Trade Marks Register is the well-known "Triangle Device" registered in respect of ale and porter. It was no accident that this trade mark was the first to be registered. The story is told that a burly drayman employed by an old-established firm of brewers was instructed to wait all night at the Registration Office to see that theirs was the first application to be lodged.

I.C.I. still has over forty trade marks originally registered in the names of the old companies and used before 1875. Among the earliest registrations in force today are the "Bickford Fuse" label of the Nobel Division, the "AE" monogram of Metals Division, the "Crescent" and "BM & CO" device of Alkali Division, the "Pierced Heart" device of General Chemicals Division and the "Stag Brand" of Paints Division.

When fewer people could read, trade marks were generally pictorial, but with the gradual advance in education and the wider distribution of manufactured goods, word marks became increasingly used. This made it necessary to define more clearly the meaning of the term "trade mark." The definition in the Trade Marks Act, 1938, is rather elaborate but includes "a device, brand, heading, label, ticket, name, signature, word, letter, numeral, or any combination thereof." It does not follow, however, that all these are suitable for

protection by registration under our trade mark law or, for that matter, those of other countries; for instance, the registration of the Geneva Red Cross would not be granted, and there are many other words and symbols which would be refused protection.

Nowadays almost everyone at some time or other has bought a particular product by referring to it by a trade mark, often without appreciating that the name he uses is a trade mark. One of the difficulties of a trade mark owner marketing a new product is to make sure that his trade mark is not used in such a way that it becomes the ordinary or only name of the product, as if this happens it becomes part of the language and other manufacturers cannot be prevented from using it. Well-known examples of trade marks which have been lost in this way are "linoleum" and "gramophone" in Great Britain, and more recently "cellophane" in the U.S.A. and "pyrex" in Australia. Zipp, originally a trade mark for slide fasteners in Great Britain, was refused registration here but is registered in some overseas countries.

Almost all I.C.I. products are sold under a trade mark, and new products involve additional registrations. The Trade Marks Section attends to all the applications for new registrations, payment of renewal fees, recording the assignments, and all the other various formalities of trade mark practice.

Besides carrying out a large volume of more or less routine work, the Trade Marks Section is continually being called on for assistance and advice by the Divisions and by home and overseas companies. The services of the section include searching round proposed marks at home and abroad to avoid unnecessary conflict, scrutinising the applications of others, negotiating with other trade mark owners and applicants, representing the Company's interest on committees, reviewing new and proposed trade mark legislation, and generally dealing with all matters concerning the trade mark interests of the Company.

# 1 DOLLAR EARNER



## A Review of conditions in Malaya today

By M. F. Cutler, Chairman of I.C.I. (Malaya)

**T**WENTY-ONE years ago, to be precise on 30th December, 1930, I.C.I. (Malaya) Ltd. was incorporated as a trading company in Singapore, then one of the Straits Settlements, and an office was opened on 1st January, 1931. The year 1931 was the nadir of the disastrous and long-drawn-out economic depression which affected all the countries in the world, and not least Malaya. The average price of rubber in 1932 was just over 2½d. a pound. Compare this with the average price in 1950 of 2s. 9½d. per pound, with the peak price of 6s. 2d. per pound in February 1951. Malayan rubber and tin companies were working at a loss, and no one could say how long this state of affairs would continue. Yet I.C.I. in those early years in its own history had the faith and courage to go ahead with the formation of a local company. This policy has been amply justified.

Today Malaya occupies a position of special importance in view of the dollar gap. In 1950 she earned £112 million in

gold dollars for the sterling area, equivalent to more than half of Britain's imports from the U.S.A. She was able to do this by producing two-fifths of the world's supply of natural rubber and over one-third of the tin mined.

These are remarkable achievements when it is considered that Singapore Island covers the same area as the Isle of Man, while the Federation is no larger than England itself and moreover is still about 80% under original jungle, mountain or swamp. The more remarkable when one remembers that both territories and many key personnel were in enemy hands little over six years ago, and that since June 1948 a ruthless and unceasing campaign of terrorism has been waged by bands of Communist fanatics.

Easily the most valuable crop in Malaya, and certainly the most important for I.C.I. (Malaya), is rubber which was introduced from Brazil via Kew Gardens in 1877 but did not become commercially important until the early 1900's, when



it came into ever-increasing demand as a result of the expansion of the motor-car industry. There are now some 3,360,000 acres under rubber in the Federation of Malaya.



*M. F. Cutler*

Before I.C.I. (Malaya) was incorporated, very little was known about the effects of fertilizers on rubber trees. Knowledge accumulated, however, as a result of their early experiments and of later trials which were carried out in collaboration with the Rubber Research Institute of Malaya and with Dunlop Plantations Ltd. One result was a rapid increase in the application of sulphate of ammonia. Today phosphates and potash are also applied.

In general the soils of Malaya are poor, and apart from rice

and pineapples the most successful crops are taken from trees (such as rubber, oil palm and coconut), the leaves of which screen the soil against the harmful effects of the strong sun and heavy rainfall.

I.C.I. (Malaya) has its head office in Singapore and branch offices in Penang and Kuala Lumpur. The "K.L." office includes an active agricultural advisory department whose staff despite present conditions make regular visits to the estates throughout Malaya. These visits are welcomed not only for the technical advice which is proffered but, in these days of bandit warfare, for the beneficial effect on morale which they give to planters whose nights are all too often spent ringed by floodlit boundaries of barbed wire.

Kuala Lumpur is the capital of the Federation as well as the centre of the rubber-growing industry, and is situated a few miles from one of the most heavily infested bandit areas. The company is now responsible for the products of all the I.C.I. Divisions and also handles a wide selection of other products, ranging from mineral phosphate won from remote Christmas Island to flavouring essences for the soft but colourful drinks which are so popular with the local people in this tropical climate.

In addition to fertilizers, there is a market for weedkillers and fungicides on rubber estates, while formic acid is sold to the estates as well as to small-holders for coagulating the liquid rubber latex into solid form. An increasing proportion of the output of rubber latex is preserved in its liquid form by treatment with anhydrous ammonia, an application which was popularised by I.C.I. (Malaya).

Periods of alternate boom and slump have hitherto been characteristic of the rubber-growing industry. This factor has made it difficult for the estates to preserve a permanent and contented labour force

and has otherwise hindered the efficient organisation of the rubber industry.

America is the largest consumer of natural rubber exports to the U.S.A. of Malayan rubber. One of the major factors enabling Britain to dispense with rubber is a low price for rubber. A low price for rubber would reduce the standard of living in Malaya and the task of fighting Communist terrorism would be immeasurably increased.

Malayan Chinese support for the terrorists and the lack of co-operation with the Government, fostered by the earlier rebel successes and later also by political happenings and the temporary success of the Communists in Korea. But since the appointment in April of a director of operations—Sir Harold Briggs, now succeeded by Sir Robert Lockhart—and with the co-ordination of police and military action against the terrorists, the initiative has gradually been gained by the authorities, notwithstanding the murder in October of Sir Henry Gurney, the Federation's courageous and far-sighted High Commissioner.

Extensive plans are under way for resettlement of squatters from the jungle edge—largely a relic of the Japanese occupation and estimated at about half a million. Resettlement camps, which will likely become townships, are to be seen throughout the country. In addition, the restrictions on movement of food known as "Operation Hunger" and the continuous harassing conducted by our jungle squads tend to drive the terrorists from the jungle into territory where they can be dealt with more effectively.

This deliberate (and successful) action now being taken by the Operations Department causes less help to be given to terrorists and more co-operation to be given to the Government in the form of information on terrorist movements. This is a most important factor in the campaign. Once sympathy can be enlisted freely on the side of Government, the major part of this long struggle will be over. Malaya will then soon again become a very pleasant land in which to live.

The sad story of this emergency tells that some 2000 civilians have been killed or are missing as well as 800 security forces and 330 soldiers. The terrorists have lost at least 2400 killed and 800 captured, and 600 have surrendered.

A great tribute is due to the planters and miners, who with their families are continuously in the front line against terrorist attack and who have suffered grievous casualties in restoring Malaya's war-shattered economy to its present healthy position.



*Chia Cheng Hoe, head godown keeper*



*BALES OF SOLID RUBBER awaiting transport from Malaya*



# RESEARCH—THE MODERN MAGIC

By R. M. Winter (Research Controller)

Man has always sought to control his environment and to make the world around him to his own advantage. In the past his methods were largely those of the witch-doctor or the medicine-man. As his understanding of nature grew, his methods became progressively more effective, and by the end of the nineteenth century much of the world was soundly based on ascertained fact.

Nevertheless it is only during the past thirty or forty years that the methods of scientific research have been consciously

and deliberately applied to practical ends on a really large scale. The result has been the immense development of technology and scientific industry which is characteristic of the present day. The control of material forces which our ancestors sought to achieve by means of spells and charms is now attained in a positive and constructive manner by the application of scientific method. Research is the modern equivalent of magic, and its results are certainly not less impressive.

While the origins of a few chemical processes such as the

production of soap, bricks and natural dyes are lost in the mists of antiquity, the chemical industry as we know it today could not arise until chemistry had made considerable progress as an organised science. Such progress began to be apparent during the seventeenth and eighteenth centuries, and in consequence we find that, towards the end of that period and during the next hundred years, quite a wide variety of chemical manufactures sprang up.

There was, however, little or no deliberate attempt to apply the growing mass of scientific knowledge to predetermined industrial objectives. Many new processes did arise and discoveries of practical importance were made, but for the most part they followed as logical consequences of observations which, if not accidental, were at least not planned with a known industrial objective in view.

A notable contribution of the twentieth century is the recognition by industry that in many cases its needs can be recognised in advance and the resources of scientific knowledge and method can be consciously applied to their satisfaction. Among the first to recognise this principle were the founder members of I.C.I., Brunner, Mond & Co. Ltd., Nobel Industries Ltd., the United Alkali Company and the British Dyestuffs Corporation. All had research laboratories devoted to the solution of practical problems, and the same policy was adopted by I.C.I. on its formation in 1926 and has been continued to the present day. Not only has research been continued, but the scale of operations has steadily expanded until it is now costing the Company between three and four million pounds a year.

The first reaction of the ordinary man to this impressive figure is probably to enquire what we do with the money and

then to ask what do we get in return for it. To answer these questions in detail would go far beyond the scope of an article such as this. However, an attempt will be made to give an answer to each question in general terms, illustrating the main points by means of examples.

The first class of research to which I will refer is that which relates to our existing manufacturing processes. Nearly a quarter of I.C.I.'s research expenditure is devoted to process improvement. That it is not unproductive is shown by the fact that the percentage increase over the past few years in salary and wage rates and in raw material costs is very much greater than the percentage by which the Company has had to increase its prices. The economies which have been made by increased efficiency have very largely offset the increased costs.

Progressive manufacturers are always on the watch for new ideas whereby their costs may be reduced and the quality of their products improved, but, lacking the systematic approach made possible by modern knowledge, such improvements are liable to be sporadic and dependent on the spontaneous occurrence of bright ideas. However, by the application of the natural laws and general principles of chemistry we are now often able to discriminate between what is impossible of achievement and what is theoretically possible but difficult to attain. A comparison of every stage of a process with the ideal performance gives a measure of its efficiency and calls attention to the possibility of improvement.

A simple illustration of this approach makes use of the principle of the conservation of matter, which states that matter can be neither created nor destroyed. In other words, all the material that goes into a process must come out again in some form or other. If, therefore, we take steps to find out just what happens to all the matter that goes in, we can tell when we have accounted for all of it, and we shall then know how much of it is being wasted in effluents, undesired by-products and so forth. A similar principle holds in the case of energy, and a study of the details of the process will show how much of the energy supplied (and paid for) is really being wasted. Such studies lead in a positive and constructive fashion to improvements which are reflected in decreased costs, greater output or improved quality, and they also tell us when we have approached so close to the ideal efficiency that research on further improvement is not worth while.

About a half of I.C.I. research expenditure is concerned with devising new processes. Some of this work relates to better ways of making our existing products, but the greater part deals with entirely new ones. The stages in such a research are first the realisation that the proposed new product has properties of commercial value, second the working out in the laboratory of a possible method of making it using available





raw materials, thirdly the translation of the laboratory results to large-scale operation, and finally the design and erection of the plant. In order to design a plant on sound principles it is usually necessary to have information which is not readily obtainable on the small laboratory scale, such as, for instance, particulars of corrosion, of heat flow, or of the amount of power required for pumping liquids or circulating gases.

These problems call for the erection of semi-technical plants which use the structural materials and engineering devices appropriate to full-scale operation. Such semi-technical work is very costly, but it is essential if the manufacturing plant is to be as cheap as possible to erect and to run.

The rest of the research expenditure goes on what we call background research, that is to say, on experiments to provide information of value in the applied research programme but which has no specific manufacturing process in view. Much of it is exploratory in character, such as, for example, the synthesis of new compounds; these may turn out to be useful in the control of disease, the elimination of pests or the production of a new textile. Another important item is the accurate determination of physical and chemical properties to enable general laws to be applied to particular cases. Another is the study of the principles governing engineering operations as applied to

chemical manufacture. Finally there is the research which is often described as fundamental. This is removed from chemical manufacture as such and is done with increased understanding of laws and principles than with the achievement of some material result.

It is most important that the immense work of research undertaken by the Company should be kept continuously with new knowledge of this basic science. It is the policy of the Company to stimulate fundamental research both in its own laboratories and in the universities.

To sum up, it is fair to describe research as the magic both because of the remarkable nature of the results achieved and because by its aid man is gaining an increasing mastery over his environment. In the chemical field alone has in the lifetime of the present generation provided him with the means to live a richer and fuller life in innumerable directions. More and better food from his agriculture, new textiles for clothing, new plastics in place of metal and wood, and new specifics for the treatment of disease are only a few of the benefits which have so far been achieved.

If some of its findings have been applied to less constructive ends, the fault lies not with research but with those who seek to apply its results.

## CHRISTMAS QUIZ

(With Acknowledgments to Alkali Division)

### A. QUOTATIONS

1. Who said "An Englishman is not interested in the equality of man, but in the inequality of horses"?
2. Whose smile was "like the silver plate on a coffin," and who said so?
3. Who said, and of whom, "Give him a steak and no woman in London would be safe"?
4. Who said "It is not the men in my life, it is the life in my men!"?
5. Who wrote "Money does not make you happy; nobody but a fool ever thought it did; but it *does* enable you to be miserable in comfort"?
6. "He was a man, take him for all in all, I shall not look upon his like again." Who said this, and of whom?

### B. SLOGANS AND ADVERTISEMENTS

1. Complete "Good mornings begin with . . ."
2. Whose motto is "Better things for better living through chemistry"?
3. Complete "If it's Truman's it's . . ."
4. Whose slogan is "Safety fast"?
5. Who claims "You want the best seats, *we* have them"?
6. Who is alleged to have said "It's colossal; it's stupendous; it's terrific—it's mediocre!"?

### C. INVENTION AND DISCOVERY

1. Who invented soda water, when, and where?
2. What is associated with Sir Robert Watson-Watt?

3. Who discovered penicillin?
4. In what country was nylon invented?
5. What is Sheffield plate?

### D. SPORT

Who holds: (1) The Davis Cup, (2) The Wightman Cup, (3) The Walker Cup, (4) The Ryder Cup?

### E. GENERAL KNOWLEDGE

1. What is Isle of Wight disease?
2. Whose cars have the following registration numbers: (a) FLY 1, (b) HRH 1?
3. What is bebop?
4. What is Gleep?
5. What is Benelux?
7. What is a Camberwell Beauty?
8. What is Mouton Rothschild?

### ANSWERS

- A. (1) G. K. Chesterton. (2) Said of Sir Robert Peel by Daniel O'Connell. (3) Said of Bernard Shaw by Mrs. Patrick Campbell. (4) Mae West. (5) C. E. M. Joad. (6) Hamlet of his father.
- B. (1) Gillette. (2) E. I. Du Pont de Nemours & Co. (3) Beer. (4) M.G. cars. (5) Keith Prowse. (6) Sam Goldwyn.
- C. (1) Thwaites in Dublin in 1776 (Also attributed to Priestley). (2) The invention of radar. (3) Sir Alexander Fleming. (4) United States of America. (5) Copper coated with silver by fusion. D. (1) Australia. (2), (3) and (4) U.S.A.
- E. (1) Disease of bees. (2)(a) Lord Brabazon of Tara. (b) Princess Elizabeth. (3) A dance rhythm. (4) Graphite Low Energy Experimental Pile. (5) The customs union of Belgium, Holland and Luxembourg. (6) A butterfly, rare in the British Isles. (7) A famous claret.





*The gold salt cellar of the great Renaissance artist Benvenuto Cellini*

## *The Splendour of Salt*

By J. N. Hickson (Salt Division)

Since time immemorial salt has had a curious power over the minds of men and also has inspired some of the finest work of the goldsmith and silversmith. In this article are collected together some of the quaint customs and beliefs attached to salt.

**O**f the many I.C.I. products, how many can claim to have held so exalted a place in the mind of man as salt?

The salt worker of today, devoted to an art whose origin belongs to antiquity, can reflect with pride on the place of esteem which, from time immemorial, has been accorded to the product of his labour. Besides its life-sustaining properties and the various uses made of it by industry, the

written history of mankind shows that salt has long influenced the human imagination.

In earlier times it has been a symbol of justice and an emblem of those time-honoured virtues, friendship and good faith. Men have regarded it as a safeguard against evil and the devil. It has played its part in the sacred ceremonies of marriage and baptism. It has been incorporated in the ritual of religions, and it has been sanctified by the scriptures.



Pliny elevated it to the level of the sun, and, linking our household commodity with the greatest luminary in the heavens, he thought that these two together were "the most precious things in the world." To Pythagoras it was "a substance dear to the gods," and Homer went so far as to call it "divine."

Among the customs of the East the ritual of eating salt in company with a guest was one of the most solemn. For one man to eat salt with another was at once a guarantee of friendship and a pledge of fidelity. Nothing was looked upon as more binding than the covenant of salt, which took the form of eating bread and salt to ratify a bargain or treaty. Salt was also a mark of welcome. To welcome an important guest a host would sacrifice an animal at the doorway, but if the visitor arrived without warning and there was not time to do this, the welcome would be symbolised by sprinkling salt on the ground.

To indulge in the hospitality of another by partaking of his salt constituted for the Arabs a sacred bond between host and guest. Anyone who ate the salt of another thereby pledged himself neither to harm nor speak ill of him whose salt he had eaten. The symbolic power formerly exercised by salt in promoting friendship and good will is expressed with peculiar force and beauty by Byron in the second canto of *The Corsair*:

"Why dost thou shun the salt? that sacred pledge,  
Which, once partaken, blunts the sabre's edge,  
Makes even contending tribes in peace unite,  
And hated hosts seem brethren to the sight."

It is not surprising that the superstitious of former times, accustomed as they were to associate salt with the noblest virtues, should have turned to it for protection against the darker forces of life known or imagined by them. Believing that it had the power of warding off Satan, the inhabitants of ancient England put salt in the coffins of the deceased to protect the remains of those who had been dear to them from interference by the Evil One. Even in later times the more credulous salted the graves of their departed to ensure that no preying spirit of evil should trespass on the sacred ground.

Curious among the supernatural powers ascribed to salt was the belief, at one time held in some parts of Germany, that it could be used as a kind of talisman to thwart the spiritual penalties which ordinarily befell those who committed the sin of bearing false testimony against their fellows. The story is recorded that objection was once made to a woman witness on the ground that when she was sworn she was seen to put a piece of salt on her left breast, believing that it would absolve her from the guilt of perjury.

In the realm of the supernatural, however, salt has had its positive as well as its negative



*The famous Vyvyan salt cellar of the Victoria and Albert Museum, a fine example of Elizabethan work*



les its alleged power to combat the forces  
the coming of trouble it has also been  
r to propitiate the gods of fortune. To  
e custom in Scotland to scatter salt on  
e at the time when the tenant entered  
ts of Wales the buyer of the salt box at a  
d furniture was thought to be lucky.  
ue love never runs smoothly, says the old  
influences of salt were once thought to be  
thing about it. For in his *English Folk-Lore*  
you wish to see your lover, throw salt on the  
ing for nine days and repeat the rhyme:  
not the salt I mean to burn,  
y true lover's heart I mean to turn,  
Vishing him neither joy nor sleep  
ill he come back to me and speak.  
rm, if carefully attended to, is believed seldom

il.

cake of salted flour, *mola salsa*, was an important feature  
e Roman marriage ceremony. This was borne before the  
bride as she was led to the house of the groom, and in the  
evening after the repast it was divided among the wedding  
guests. With the Russians it used to be the practice to make  
a present of bread and salt to the newly married.

The baptismal use of salt goes back to antiquity, and salt  
has had its place in the christening of churches and bells. It  
is interesting to note that in *Ezekiel* (xvi, 4) reference is made  
to the custom of salting infants: "thou wast not salted at all."  
The rational belief underlying this ancient practice was prob-  
ably that salt was able to make the skin tighter and firmer.

Salt as a symbol of sanctify appears early in the records of  
the ancients, and although it is not possible to say when it  
first entered into their religious ceremonials we know that the  
injunction to season every meat offering with salt was laid  
down in the laws relating to the Levites. The Aztecs had  
their Goddess of Salt, and for the Romans health, prosperity  
and public welfare were deified in the goddess *Salus*, whose  
worshippers offered salt at her altars.

The Biblical references to salt are many, and in the Books  
of Leviticus, Numbers, Judges and Kings the children of  
Israel are frequently enjoined to use salt in their offerings:  
"And every oblation of thy meat offering shalt thou season  
with salt; neither shalt thou suffer the salt of the covenant of  
thy God to be lacking from thy meat offering: with all thine  
offerings thou shalt offer salt" (Leviticus II, 13).

Metaphorical expressions connected with salt have their  
place in our own present-day language, some of them reflecting  
the high moral value conferred on salt in former times. When  
we say of a man that he is not worth his salt, we usually mean to  
imply that he is lazy, or that he is so lacking in moral worth as  
to be unwilling to fulfil his obligations. At the same time we  
are referring, often unknowingly, to the old Roman custom of  
paying a man for his services with salt, or a money allowance  
in lieu of salt called a *salarium*. Salt-money was paid to the  
Roman soldiers.

When we hear something about which we are sceptical and  
we counsel ourselves to take it with a grain of salt, salt be-  
comes a substitute for truth, and just as we use salt scantily  
to season our food, so are we disposed to measure truth  
sparingly in what is told to us.

Most of us must have been puzzled in childhood when a  
seemingly all-wise adult admitted us into the secret that the  
way to catch a rabbit or bird was to put some salt on his tail,

for young children do not readily grasp that the employment  
of salt in such a way presupposes that the elusive creature has  
already been caught.

The verb "to salt" is sometimes used in the sense of repre-  
senting something to be better than it really is. Thus a worth-  
less mine is said to be salted when ore is surreptitiously  
deposited in it for the purpose of deceiving prospective in-  
vestors into thinking that the working of the mine would be a  
profitable venture. "To salt an invoice" refers to the attempt  
to boost the worth of the items listed by stating them at their  
highest marketable value, or even above that value.

"The salt of youth" connotes the vigour and high spirits  
characteristic of that period of life, and it is evident that  
Shakespeare had this meaning in mind in these lines from  
*The Merry Wives of Windsor*:

"Though we are justices, and doctors, and churchmen,

Master Page, we have some salt of our youth in us."

The expressions "above the salt" and "below the salt" are  
still to be found in some of our modern dictionaries. But if  
our interest in them now amounts to little more than idle  
curiosity, there was a time in the history of our countrymen  
when their meaning was charged with significance. In the  
homes of great families, when a nobleman and the members  
of his household dined together, it was the custom to place on  
the middle of the table the salt-vat, which served as a line of  
division distinguishing the family from the menials. The  
guests sat above or below the salt-vat according to their  
recognised rank. To sit above the salt was a mark of honour,  
and in *Westward Ho!* Kingsley writes: "Will took him above  
the salt and made much of him."

Salt has played its part in the economic advance of mankind  
in more ways than one. For, as well as its more obvious  
culinary, agricultural and industrial uses salt has had its  
influence on the making of roads, and it has done service as a  
medium of exchange. Primitive highways were opened for its  
transport, and in our own country the course of the trade routes  
and the Roman roads were so devised as to pass the salt springs.  
Referring to its use as a medium of exchange, Gumpel in his  
*Common Salt* says: "It may truly be said that in ancient times  
salt influenced human society as much as gold does at present;  
and this view receives additional support from the fact that at  
the beginning and during later periods of civilisation, salt was  
the medium of commercial exchange."

That mankind through the ages has seen fit to place salt on  
a pedestal of veneration cannot be doubted. But salt has had  
its humorous as well as its solemn side, and in support of this  
is a story said to come from Aberdeen about a servant lad who  
was caught by his master after deserting his job. The master  
hauled the frightened lad before the sheriff, and the case was  
proved. But the sheriff had a kind heart, and was inclined to  
take pity on the lad, who had a bright, honest expression that  
appealed to him. So in sympathetic tones he asked the lad to  
tell him what it was that had made him run away. Sensing  
that the sheriff meant well by him the lad gathered his courage  
and blurted out "It was the saut that did it." "The saut!"  
repeated the sheriff, "What had the saut to do with it?"  
"Oh," replied the lad, "shortly after I gaed there an auld soo  
deed and I was sent to the village for saut, and I helpit to eat  
her; and then there was an auld coo deed, and I was sent to  
the village again for saut, and I helpit to eat her; and then the  
auld wife deed, and I was sent a third time to the village for  
saut, so I thocht it was time I was clearing oot o' that!" The  
case against the lad was dismissed.





THE SEYMOUR SALT, which bears the inscription "The gift of Thomas Seymor to the Worshipful Company of Goldsmiths 1693." Tradition has it that the salt-cellar was made to be given to Catherine of Braganza on her arrival in England for her marriage to Charles II, but was returned to Thomas Seymor and given by him to the Goldsmiths' Company. As royal gifts were exempt from assay, this may account for the fact that the salt-cellar has no maker's mark.



# John Duggan

(Salt Division)

Jack Duggan is a wycheman, which to a historian means a saltmaker. Mid-Worcestershire folk also confer the title of wycheman on the ancient borough of Wyche—now Wychavon. His father, Thomas, was a saltmaker who left for the salthouse every Sunday night and returned the following Friday afternoon. Jack's mother was a saltmaker. At six every morning, with two elder children and John, she joined her husband in the salthouse. Apart from firing the pan she did exactly the same work as his father.

The smells, sights and sounds of a salthouse are among Jack's earliest memories. He was familiar with the curling, tenuous wisps or impenetrable banks of steam; the sibilant hiss of boiling brine; the staccato cracks of blowing scale; the heavy thuds as brine-soaked tubs were dropped by sore, tired hands. The stove (drying room) was his play-pen.

As a boy Jack was kept busy saltmaking out of school hours. After he left school he started work in a salt works, later joining his father at the Cargo Fleet Saltworks. At one period he worked in a shipyard, but this divorce from his life's work lasted barely twelve months.

In 1903 Jack Duggan, now 17½ and a skilled saltmaker, came to Stoke. His wanderings afterwards, apart from war service, were confined to the works. He has worked at every salt pan at Stoke as lumpman, lofter, waller or fireman. Every job bore the stamp of the master hand. Although he prefers his old salt pan he has seen the erection of a new vacuum salt plant in which the methods of production and the working conditions bear no resemblance to those of his early days.

In April 1906 Jack married. His wife's parents, like his own, were saltworkers. Three of his four daughters worked in the salt mill. The one daughter who married a saltmaker now cares for Jack's simple needs in his cottage—one of a row so aptly named Wyche Cottages—adjacent to the works.

In July 1914 he was camping as a Territorial with the 8th Worcester Regt. After war was declared on 4th August he was moved to Maldon. Here, to his amazement, he found another saltworks. But he did no saltmaking. He fought the Germans in France and was wounded in the left arm. Fit again, he embarked for India. His ship was torpedoed in the Mediterranean, and brine and salt which had given him life and sustenance came near to being his shroud. Happily his immersion was reasonably brief. Ultimately he arrived in India. From there he went on to fight the Turks in Mesopotamia and the Bolsheviks in the Caspian region. He returned home and resumed saltmaking in 1919.

In spite of advancing age and arduous labours he has changed very little physically. His figure is as lithe and his step as buoyant as when his twinkling feet, auburn hair and aggressive moustache struck awe into opposing footballers thirty years ago. Now, in spite of his evident fitness, he wisely confines his recreation to the bowling green and the dartboard.





# CARAVANITIS

by Duncan H. Shaw (Paints Division)

*Illustrated by Koolman*

Few problems weigh more heavily on the community today than the shortage of houses. Here a young member of Paints Division tells how, after a fruitless search for a home, he succumbed to the caravanitis bug. He designed and built his own caravan and literally scraped home in time for M-Day—the day of his marriage.

HAVING made the all-to-easy decision to get married, my fiancée and I lightheartedly began our hunt for suitable accommodation. We first attempted to find unfurnished rooms but met with no success, so accordingly we changed our course and tried for furnished apartments; but the extortionate rents demanded soon led to the unhappy conclusion that our combined financial resources would be unable to stand the strain for very long.

A council of war was held, and having formulated another plan of campaign we sallied forth with renewed hope to find a dilapidated cottage, oast-house, stable or garage suitable for conversion to a flatlet or maisonette. Several very potent possibilities were unearthed in various outlying districts, but on pushing our enquiries into official circles various letters were received reading: "Dear Sir, We regret to inform you . . . the cottage is condemned" or "Dear Sir, It is with regret . . . the building is considered unfit for human habitation" or "Dear Sir, We thank you for your letter . . . the building is reserved for agricultural purposes." This last statement was used in reference to a cottage empty over ten years.

Our search continued unabated, until one day in the course of our travels we passed a caravan dealer's depot, and in the following few seconds an inspiration was born. We retraced our steps and inspected nearly thirty different types of caravan, varying from a 10 ft.

camping week-end to a 22 ft. luxury living van. We were most impressed with the possibilities which were unfolded to us and carried our enquiries on to the financial aspects of the case, only to find that the initial deposit required was 25% with the balance repayable over two years. On a van costing £850 this proved to be our stumbling block.

However, the seed of an idea had fallen on fertile ground, and from that day onward we were conspicuous by our constant visits to the dealers' premises. We attempted to adopt the air of wealthy would-be buyers which somehow wore rather thin by the time I had been observed crawling under various caravans to make minute inspections of chassis and undergear. Eventually the answer to the question "Can it be done?" appeared to be in the affirmative, so the epoch-making decision to build our own mobile home was made.

The breaking of this news to our respective parents aroused violent opposition at first. Such a thing was unheard of! The very idea! But once the fears that we were going to live in a gipsy shack or other horse-drawn vehicle were dispelled, the slow but sure process of educating our parents into modern caravanning did not prove too difficult. In fact, three months after seeing our finished product my mother bought a caravan of her own for holiday and week-end use.

Having "lifted" many constructional details and bright



*Crawling under caravans to make minute inspections of chassis . . .*



# Person

various dealers, a process of elimination many sketches, dimensions and notes and plans, and we began making enquiries wild. This proved to be a problem in mans and smallholdings surrounding our tent from a local authority who would of any sort to use its grounds for standing,

Finally, after many fruitless searches, the fact that a small pig farm only a om my digs was on freehold ground, and a on with the owner soon clinched a deal.

le having been cleared, we worked like Tro- ry forward for nearly eighteen months. After the aluminium sheet for the outer skin and al timber merchant into some rather shady

as, a lorry chassis was found in a nearby transport This yielded, after three weeks' hard work with l. mm. and chisel, two 20 ft. long fish-bellied pressed steel channels some 7 in. deep. These were to be the main backbone of our caravan chassis. A local light engineering firm was then given the job of supplying and welding up the various steel cross-members forming the chassis and towbar. This was the only professional assistance received during the building of the caravan body.

The axle was fabricated by the use of ex-lorry hubs (more about these later), dowelled and bolted into a seamless steel tube to give the necessary strength and track width. The timber was given three liberal coats of creosote followed by two coats of bituminous paint, this job being very neatly executed by my fiancée. Floor joists were then bolted to the chassis and tongued and grooved floorboards fixed to form a large working surface measuring 22 ft. by 7 ft., and the complete side frames were lofted on this floor in pencil. The vertical side members were tacked down and the horizontal members were half-jointed, screwed, and glued to them, after which the side frame was lifted off and the process repeated for the remaining side and end frames. The complete skeleton was then propped up and assembled, and after making careful checks to ensure accuracy and straightness the tedious job of sheeting the exterior began.

Here a few words of thanks would not be out of place to the population of the neighbourhood, who for three solid months bore the sound of metallic booming far into the night and all day on Saturdays and Sundays as the panel-pinning of the aluminium sheets proceeded. Eventually this came to an end, and the insulation of the entire structure was accomplished by the liberal use of fibreglass blankets followed by a layer of bituminised brown paper backed with sheets of the first-grade Swedish hardboard which forms the interior surface of the caravan.

Having finished the main shell we thought the job to be 90% completed, but found to our dismay, both physical and financial, that we were only about half-way through. A hundred and one small items were required which had been overlooked in the original "builder's estimate," added to which the main accessories of living had to be bought and fitted. To name a few: sink and draining board unit, Calor gas stove and cylinders, anthracite stove, flue and cowl, hot and cold water tanks, beadings, mouldings, gas light fittings, copper pipes, waste pipes, chemical closet, wash-basin, cupboard and window fittings and so on. However, we pressed on regardless.

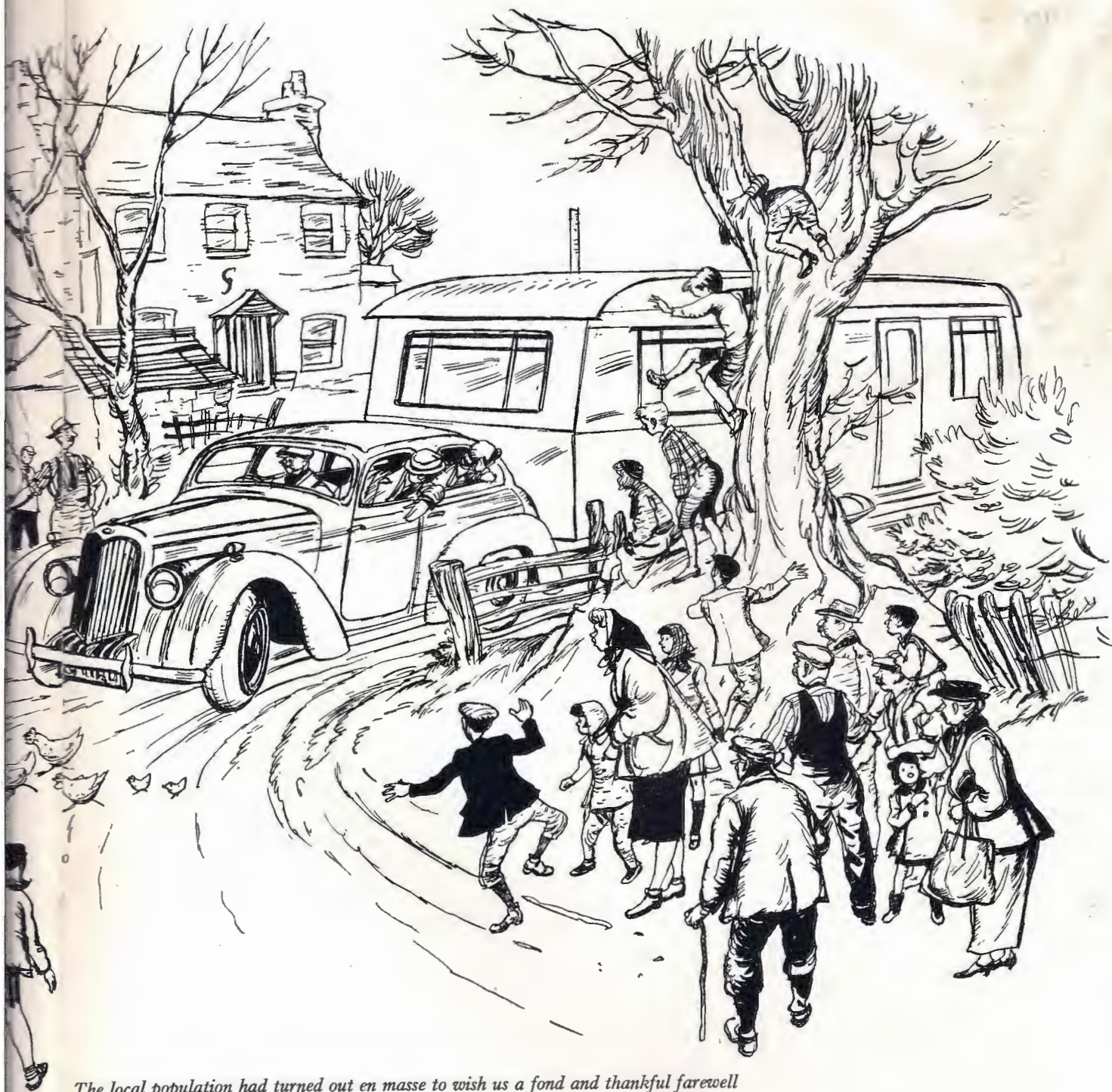
Eventually we slowly but surely approached the end of the trail. The date for our marriage (henceforth known as M-

Day) was set, and final preparations, finishing off and interior decorations were carried out with a frantic rush only four days before M-Day. The following morning a professional caravan towing merchant arrived complete with 30 h.p. car. The van was hitched up and loaded with tools, household equipment, timber, cans of paint, and literally hundred-weights of junk. Complete and utter chaos reigned supreme and unchallenged. The towing vehicle was dropped into bottom gear and we slowly manœuvred our way out of the farmyard in which the van had been built.

Outside on the road the local population had turned out en masse to wish us a fond and no doubt thankful farewell.







*The local population had turned out en masse to wish us a fond and thankful farewell*

Good-byes were said, and we moved off, slowly at first but with gathering momentum. A village was successfully negotiated and a main road crossed without incident, but I had horrible lurking suspicion that all was not well with the two-ton colossus behind us. I dismissed this as imagination, but above the noise of the engine I still thought I could hear an unhealthy grating sound emitted from the caravan. Suddenly, as we rounded a sharp bend, there was an almighty crash from behind us. The car stopped dead in unison with my heart, and my wife-to-be turned ashen white. Two very shaken individuals and an unmoved driver got out and surveyed the damage.

The nearside wheel of the caravan had sheared completely off at the hub and the van was listing heavily to port like a sinking ship. The noise of the occurrence had brought out the entire staff of a nearby garage, which was fortunate, because the shock had transfixed me. The garage hands buckled to, and with the aid of a crocodile lifting tackle got the van into a yard and jacked up. Inspection showed that a vital part of the hub was completely missing, due solely to my ignorance in the matter when I originally purchased the hubs.

Fortunately the garage foreman was a generous soul, and on seeing the pickle we were in he set to and repaired the



ersons...  
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...vased to take any payment for having  
 ...an hour the wheel was replaced and  
 ...keel once again. Permission was  
 ...e proprietor to leave the van on his  
 ...ing was out of the question until the  
 ...ndergear could be properly assessed and

...fast approaching and the sands of time  
 ...however, our luck held. The early morning  
 ...y saw three men slowly winching, in pouring  
 ...caravan up the ramp of a low-loading trailer,  
 ...elay caused by a temperamental engine and  
 ...of a nearby public house we eventually drove  
 ...ing twenty miles to our caravan site was accom-  
 ...ply only one incident—the chimney just scraped the  
 ...und ... a low bridge—but fortunately the damage was  
 ...very ... Our arrival at the site was heralded by the steady  
 ...rain t...ning to a deluge, and five minutes at the winch saw  
 ...e driver and I thoroughly drenched. The van was off-  
 ...aded, manœuvred into position and left.

Back from our honeymoon, we set to and cleaned the van from end to end. Close inspection of the chassis proved the damage sustained to be only superficial, much to our relief. Our first week-end at home was spent laying linoleum, hanging curtains and getting the place generally shipshape. Then we replaced the home-made undergear by an axle and wheels professionally designed and made to ample capacity. This done, our mobile home was complete, and we settled down to a less hectic and more domesticated existence.

Life in the caravan has proved to be extremely efficient from my wife's point of view, since housework can be carried out with a minimum of effort. Two hours' work in the morning sees breakfast made, washing up done, beds made, furniture dusted and floors polished. Constant hot water is available from the anthracite-fired stove, and cold water is carried in two waterjacks of three gallons capacity. The windows of the caravan, made extra large to create an impression of light and space, were something of an experiment but have proved completely successful. No condensation of any sort is experienced, even in the depths of winter. This can be attributed to our solid fuel stove, which gives out a dry heat and at the same time, via the stackpipe, heats the hot water tank and airing cupboard and keeps the wardrobe at a luxurious temperature. Fresh air is continuously drawn into the

van and stale hot air disposed of by three large transparent roof vents fully adjustable to meet changes in direction of the wind and rain.

Last winter we experienced gales, hailstones, snow, and almost six months of continuous rain, but no leaks developed and we felt content and well rewarded for our efforts. We have recently become the proud parents of a fine baby boy, and apart from a sharp rise in our daily water consumption, the cause of which is obvious, our life is still running very smoothly. Week-ends are like holidays, with breakfast, dinner and tea taken in the open air when the weather permits. There are many odd jobs to do and boredom is unknown to us.

Electricity connections have been made, and although the van has not been properly wired up we are able to run a wireless set, electric iron and lights. Water is in the process of being laid on, so we shall soon be able to boast about all mod. cons. Many of our neighbours' vans are fitted with television sets and a few of them have electric washing machines. Tradesmen call, and there is a caravan shop on the site to supply the odds and ends of shopping which may have been forgotten.

Our clubhouse is a gracious Queen Anne mansion offering hot baths in a bathroom which has a greater floor area than the largest caravan on the site, and a bath with taps which would shame a fire hydrant. On Saturday or Sunday evenings a quiet drink may be enjoyed at the club bar in the company of friends and neighbours. The clubroom boasts a grand piano and a small dance floor for those who feel energetic. A professional pianist plays three or four evenings a week and sometimes well-known West End cabaret artists oblige with an impromptu act. So life can be highly entertaining at times.

Since adopting this somewhat novel form of living our standard of health has improved tremendously and our appetites have developed proportionately. Four square meals a day is our rule now, except for baby, who demands five or six. Junior is now, at six weeks, as brown as a berry and is our doctor's pride and joy.

To any who are considering embarking into caravan life I would say this—study caravans very carefully before making your choice, and if possible get the advice of a friend (not a dealer) who has had experience of *living* in a caravan. Then, having weighed up the many pros and cons, and having given due thought to the fact that it is a very practical life, if your mind is still made up, go ahead, and the best of luck to you. It is a grand life and you will never regret it.





# I.C.I. NEWS

## LORD McGOWAN HONOURED BY MCGILL UNIVERSITY

ON 6th October the honorary degree of Doctor of Science was conferred on Lord McGowan by McGill University, Montreal.

The convocation was held on Founder's Day. On the previous day the new Physical Sciences Centre of the university had been inaugurated in a ceremony attended by the Governor-General of Canada, Lord Alexander, and Lady Alexander, and it was the interdependence of the physical sciences and industry that provided the theme for Lord McGowan's address.

"None of us has any need to be convinced of the importance of scientific progress," he said. "Speaking as an industrialist—certainly not as a scientist—I am glad to make public confession of my faith in science and in the beneficent effects that accrue from a diligent cultivation of science in its many fields. We must pursue this work, for it is the spearhead of progress in every field of technology, the whetstone that puts the edge on our competitive efficiency in time of peace—the price of success in industry."

Speaking of the material help that can be given to the universities by industry, Lord McGowan said: "The form such help should take is a delicate matter. In days gone by it was quite common for industry to offer to bear the cost of specific pieces of research, with the stipulation that the results were to be kept confidential until released by the company concerned, so that it could reap the full benefits of industrial exploitation. I cannot think of a more vicious practice. It is utterly incompatible with the conception of a university as a place of learning where all ideas and knowledge should be free for use by, and discussion between, all within its walls. I believe there are few universities today which would accept help on these terms and, I hope, few industrial concerns which would attempt to impose them. Industry must avoid any interference whatever with the academic liberty and proper functions of the university, which must be trusted to make proper use of any help extended to it."

After describing other desirable points of contact between industry and the universities, Lord McGowan went on to give details, "in no boastful spirit," of the financial help given by I.C.I. to universities in Great Britain. He recalled the scheme formulated in 1944 for awarding research fellowships in chemistry, physics and kindred sciences to graduates at nine British universities, and another I.C.I. scheme for helping university professors to obtain expensive apparatus and chemicals for their departments. "In this and other smaller ways," said Lord McGowan, "I.C.I. is helping the universities to the extent of more than £100,000 per annum."

Lord McGowan then turned to the subject of technological education. There were two schools of thought on this matter,

he said. One school thought the universities, and their existing technological faculties and set v ones This school argued that the products of technol ,ca illege would inevitably be specialists with a strong ten ncy narrow-mindedness. The other school maintained with equi a firmness that the university was the place where knowled e should be pursued for its own sake, so that the teaching of any form of applied knowledge was improper. The more fervent members of this school went so far as to lament the fact that the teaching of certain forms of applied knowledge had already managed to establish itself, even in the older universities, and they pointed to medicine, engineering and agriculture. "If an outsider may be permitted to venture an opinion in this debatable field," said Lord McGowan, "might I say that the solution probably lies in a compromise—with a setting up in the universities of applied science faculties of reasonable size, and with the balance of applied scientists being taught in technological colleges or institutes. I also think that some regard should be paid to the scientific content of a technology before a faculty for it is set up in a university. For example, the medical student needs an extensive knowledge of the sciences underlying his subject, and an engineer requires a thorough grasp of physics. These, then, seem suitable subjects for a university; but an agriculturist needs a much more limited knowledge of his basic sciences, while a rubber technologist moves in an even narrower field, so that these seem more suitable for special colleges or institutes."

During their stay in Canada Lord and Lady McGowan were invited to spend a few days with the Governor-General, Lord Alexander, at Ottawa. While in Ottawa Lord McGowan took the opportunity of having useful talks with Mr. S. Laurent, the Prime Minister, Mr. Lester Pearson, the Secretary of State for External Affairs, and Mr. D. C. Abbott, Minister of Finance.

### Inter-Division Safety Competition

A silver cup, known as the I.C.I. Accident Prevention Trophy, is to be awarded every six months to the I.C.I. Division winning the Inter-Division Safety Competition.

This new safety competition follows an announcement by the Technical Director at the spring, 1951, Central Council meeting. Although I.C.I. has a record in accident prevention which will bear close examination, there were, nevertheless, 2252 accidents in 1950, involving a loss of 381,355 man-hours, and in the same year 15 fatal accidents occurred. It is not expected that a new safety competition will provide the complete answer to this serious problem, but if it results in still greater interest in accident prevention it will have achieved its purpose.



person which the competition is to be judged is  
 y rate, a figure which represents the  
 injury cases reported for every 100,000  
 A Division which worked two million  
 10 injury cases in a given period, for  
 a frequency rate of 2. The rules for the  
 le. The winning Division will be the one  
 of each six-monthly period, has made the  
 improvement on its previous best six-  
 y rate. The previous best six-monthly  
 ill, for this purpose, be the best recorded

in the first period of the competition, the second half  
 of the year, divisions will be competing against the following  
 previous rates:

Alkali .. ..	0.76	Metals .. ..	1.60
Bilting .. ..	1.04	Nobel .. ..	1.63
Dyestuffs .. ..	0.52	Paints .. ..	0.58
General Chemicals ..	1.05	Plastics .. ..	1.46
Leathercloth .. ..	1.91	Salt .. ..	1.03
Lime .. ..	4.65	Wilton .. ..	1.90

(These rates cover all injuries, with the exception of minor cases which do not result in loss of time or transfer to alternative work.)

The presentation of the trophy will be made at each Central Council meeting. In May the award will cover the period 1st July to 31st December of the previous year, and at the November meeting the period covered will be 1st January to 30th June of the current year.

The first presentation will be made next year at the spring, 1952, Central Council meeting, and the greatest improvement at the end of the current half year will earn the winning Division the distinction of being the first to have its name engraved on one of the silver shields which encircle the plinth of the trophy. Meanwhile the trophy is being held by Dyestuffs Division, in recognition of the fact that they have the lowest half-yearly frequency rate in the Company at the moment.

The present accident rate for the whole of I.C.I. is approximately 1.30. The next objective is a rate of not more than one accident for every 100,000 hours of work.

### "I.C.I. 1950"

An illustrated and simplified version of the I.C.I. Annual Report for 1950, entitled *I.C.I. 1950*, has been issued to all Divisions of the Company for distribution to their employees.

Every employee of the Company should have received a copy of *I.C.I. 1950* through the post. Anyone who has not received a copy but wishes to do so should apply to the Division Staff or Labour Department, or to the Head Office or Regional Staff Department.

### *I.C.I. Liaison Office, Frankfurt*

The I.C.I. Liaison Office in Frankfurt, shown in the accompanying picture, is a handsome new building built specially for the purpose which was ready for occupation in January 1950. It stands in an acre of ground on the south bank of the river Main overlooking the town, and besides offices contains a flat for the Liaison Officer and guest rooms for visitors.

The Liaison Office was established in Frankfurt in September 1949. The Liaison Officer, Mr. F. A. Payne, combines

his duties with those of manager of Zipp Werk G.m.b.H, a subsidiary of Lightning Fasteners Ltd. whose selling staff is



accommodated in the Frankfurt building. Mr. Payne is responsible for keeping I.C.I. in touch with both the Allied Control authorities and the German Government, and for providing I.C.I. Divisions with information of sales, prices and competition in Germany.

## HEAD OFFICE

### *Mr. J. W. Ridsdale*

Mr. J. W. Ridsdale has been appointed Solicitor to the Company, in control of the Legal Department, with effect on and from 11th October. He succeeds Mr. E. A. Bingen, whose appointment to the I.C.I. Main Board was announced in our September issue.

Mr. Ridsdale was born in London and educated at King's School, Canterbury. He was articled to a City firm of solicitors in 1923 and joined the Legal Department of I.C.I. immediately after qualifying in August 1928.

Since December 1940, when Mr. E. A. Bingen became I.C.I.'s solicitor, Mr. Ridsdale has been deputy head of the Legal Department and has represented Mr. Bingen during his frequent absences abroad on Company business.

Mr. Ridsdale, who is married and has one son, lives in London.

### *Mr. George Hulgrave*

After 36 years' service with I.C.I. and its predecessors, Mr. George Hulgrave retired from the Company on 30th September. On Friday, 28th September, Mr. John Young presided at an informal gathering of Mr. Hulgrave's friends and colleagues who met at I.C. House to wish him continued health and happiness in his retirement.

On making a presentation to him Mr. Young recalled that George Hulgrave joined





Explosives Loading Co. Ltd. (later taken over by Curtis's and Harvey Ltd.) in May 1915, and that he was transferred to the Pensions Department in August 1930 to take over the then newly formed Workers' Friendly Society. Throughout Mr. Hulgrave's service he had not had one day's absence through ill health.

Mr. Hulgrave was well known throughout the Divisions, and at the last meeting of the Friendly Society Committee of Management which he attended he was presented with a farewell gift from members, past and present, in appreciation of his services to the Society.

He has been keenly interested in the Boy Scout movement for many years, and while at Windermere during the war years he was appointed District Commissioner for that area.

Mr. Hulgrave will long be remembered by all with whom he came in contact for his unfailing help and kindness.

### *Mr. John Hay Retires*

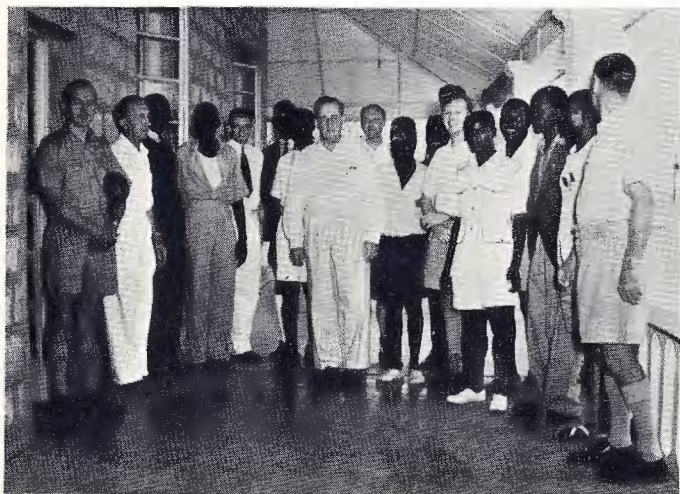
As we go to press we learn that Mr. John Hay, Chief Labour Officer of the Company, is retiring at the end of the year. He will be succeeded by Mr. E. T. Grint. An appreciation of Mr. Hay and a biographical note about Mr. Grint will appear in our next issue.

## ALKALI DIVISION

### *Kenya Governor visits Lake Magadi*

On 5th October His Excellency the Governor of Kenya, Sir Philip Mitchell, K.C.M.G., M.C., and Lady Mitchell, accompanied by the aide-de-camp, paid an official visit to the Company's works at Magadi, where they were met by Mr. F. J. Purssell (the general manager) and Mrs. Purssell. That evening they attended a sundowner party in the Asian Club, where Sir Philip chatted informally with members.

Next morning the Governor toured the works, accompanied by the general manager and the aide-de-camp, inspecting the main plant, workshops, African Recreation Club, hospital, and the new dredger which is under construction on the site. Members of the Magadi African Works Council were also introduced to him.



*H.E. the Governor of Kenya (centre) with representatives of the Magadi African Works Council*

In the afternoon Sir Philip and Lady Mitchell presented Long Service Awards to three African sportsmen who had completed 27 years' service, and to three who had completed 20 years'. Later Lady Mitchell presented prizes to successful competitors in the sports.

Sir Philip and Lady Mitchell were at a dinner given that night by the European club. They returned to Nairobi the following day.

The Governor remarked that he was greatly impressed by all that he saw, and especially with the happy conditions prevailing in Magadi.

## DYESTUFFS DIVISION

### *Mr. C. W. Judd*

Mr. C. W. Judd, who retired on 30th September after 35 years' service with the Company. For the last 22 years of his career he was concerned with the manufacture of synthetic indigo and was appointed works manager of the Ellesmere Port factory of Dyestuffs Division in 1933.

Mr. Judd started his career as a chemist at the Litherland Works of Messrs, Brotherton & Co. Ltd. in 1914. Two years later he joined Nobel's Explosives Co. at their Ardeer factory. During his first year he was engaged on experimental work, out of which developed a new cordite which was manufactured during 1917-19 at their Greta Works and Pembrey Works. Later he became a plant superintendent on rota duty in the various sections of the Cordite Department at Ardeer and on nitroglycerine manufacture. Early in 1919 he joined the British Dyestuffs Corporation Ltd. at Blackley, and after a year in the Research Department he was put in charge of the erection and subsequently the working of the research experimental plant there. Mr. Judd was transferred to Ellesmere Port in 1929, where he became head of the manufacturing department.

We wish him many years of happy retirement and good health with which to enjoy them.



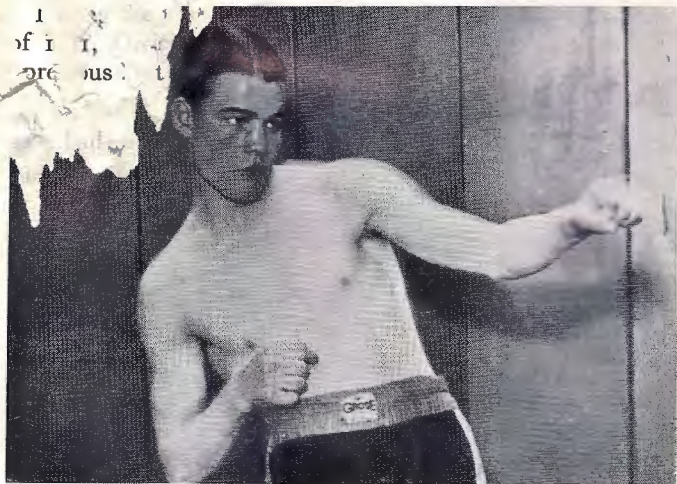
### *Twenty Years of Boxing*

Mr. Alfred Dickinson, a record clerk at Nylon Works, Billingham, holds a Class B boxing referee's licence. He is an ex-professional boxer who in his younger days was known as "Al Capone," the West Hartlepool featherweight. Mr. Dickinson, talking about some of the interesting events of his career, said "Boxing to the average person conjures up visions of cauliflower-eared, badly bruised men of subnormal intelligence battering each other silly. Nothing could be further from the truth, for during my association with the sport as boxer, matchmaker, and latterly referee, I have met and associated with some of the best men in the land.

"I began to box when I was 15 and managed to win a silver cup. But my early triumph was short-lived—I was defeated in my next fight. Fortunes in the boxing game are apt to



person which the competition is in effect serving  
y rate, a figure which eventually ran into a  
jury cases reported.  
A Division which Bynon, Welsh feather-  
weight, Scottish bantamweight  
frequent (whom I knocked out in two  
rounds) he had stayed 15 rounds with Johnny  
champion. My greatest disappointment  
suffered by Johnny Cusick, who eventually  
lost. During this contest I began to appreciate



*Mr. Dickinson during his boxing career*

The outbreak of war in 1939 brought Mr. Dickinson's boxing career to an end and he joined the R.A.F., in which he served with distinction and was awarded the D.F.M. and Bar. He gained the second award as a Warrant Officer, Wireless Operator/Air Gunner, in a Pathfinder squadron. He took part in three tours of duty, with 90 operational flights to his credit.

After demobilisation he became a boxing promoter, but later his thoughts turned to refereeing. To become a referee, however, is far from easy; first the Area Council and the British Board of Boxing Control make most careful investigation into the integrity and background of an applicant. Later there are very stringent tests before an applicant is examined. Soon after his application Mr. Dickinson was given an oral examination by Mr. Barrington Dalby, the B.B.C. commentator and former top-class referee. This was followed by a practical test, the adjudicator in this case being Mr. Sam Russell, another top-class referee. Eventually Mr. Dickinson was awarded his Class B licence, which entitles him to officiate in professional fights of eight three-minute rounds. He hopes to attain his Class A certificate next year.

At the age of 36 years Mr. Dickinson can look back on twenty years of boxing. He fully commends it to all youngsters who are interested, and says "Boxing for me has many interesting and happy memories, and even with all the ups and downs of my boxing career I would not have missed it for anything."

### **Bowling Champion**

Mr. Harold Cartwright, leading hand in Huddersfield Works laundry, has just added another victory to his already long list of bowling triumphs. This time it was a charity

bowling handicap promoted by the Ravensthorpe Bowling Club in aid of the blind of Dewsbury, Batley and District. For the competition there was an original entry of 736 players, reduced to 92 qualifiers for the play-off and 16 for the finals.

Mr. Cartwright has been keenly interested in bowls for very many years and has been a member of the Mirfield League since 1928 and of the Heavy Woollen District League since 1934. He has played in the County Parks Association for the last six years, and won the individual championship in 1950. He was a runner-up for the All-Britain Parks Association championship last year, and in 1949 won the West Riding Association contest in which he has played for 16 years.

Mr. Cartwright, who lives at Mirfield, joined the Company sixteen years ago and has worked in the laundry since it was opened in 1938. Harold's many admirers would like to see him bowl more often on the now quite famous greens at the works recreation club.

## **GENERAL CHEMICALS DIVISION**

### **Centenary Celebration**

On 14th December this year the founding of Chance and Hunt Works, Wednesbury, will be commemorated at a gathering to which have been invited past and present employees of the factory, members of Oldbury Works who have had close association with Wednesbury Works in the past, and certain distinguished guests who have old family connections with the place.

William Hunt, the founder of the works, was born at Dodderhill, near Bromsgrove, in 1808. After being associated with William Gossage, who had started the manufacture of alkali by the Leblanc process at Stoke Prior, Hunt moved to Wednesbury in 1851 and, on the outskirts of the town, at Leabrook, built a small factory to make alkali, soap powders and sulphuric acid. The chemical works which he then founded, in the year of the Great Exhibition, under the title of William Hunt & Sons, thus celebrates its centenary this year, although the actual month and date are a matter of conjecture.

When William Hunt, the founder, later moved to Castleford in Yorkshire—where he died in 1875—his place was taken by his son, William the second, who in due course was joined on the board by his son, Edwin James Hunt, still remembered with affection as "E.J." by some of the older employees at Wednesbury and Oldbury.

The firm enjoyed an independent existence till 1898, when William Hunt & Sons amalgamated with the Oldbury Alkali Co. Ltd. to form the union destined to become world famous as Chance and Hunt Ltd. The first chairman of the joint enterprise was Henry Chance, and William Hunt became vice-chairman.

The combined firm soon entered on a period of active development. In 1907 land was purchased at Stafford, and works were erected to produce various grades of open pan salt. Edwin James Hunt took a leading part in the establishment of



*William Hunt*



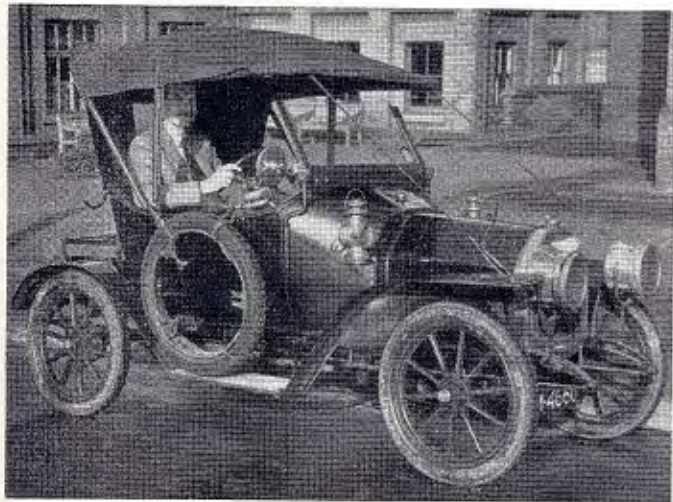
Stafford Works, which today form part of the Salt Division of I.C.I. In 1910 a London office was opened which, though now an integral part of I.C.I., still trades under the name of Chance and Hunt, and a sulphuric acid works at Cwmbran, in Monmouthshire, was taken over in 1910 and worked until 1931 as a subsidiary company.

In 1924 Edwin James Hunt, who at one time had been chairman of the board, ceased, for health reasons, to take an active part in the conduct of the Company's affairs. Before this, in 1917, Messrs. Brunner, Mond & Co. had acquired a controlling interest in Chance and Hunt, which therefore, at the merger of the four great companies in 1927, became part of Imperial Chemical Industries Limited.

To the youngest centenarian we extend our heartiest congratulations and good wishes.

### *A Veteran Car*

The arrival of Major T. I. J. Toler at Castner-Kellner Works, where he is a section engineer, caused an unusual stir one morning recently. He had forsaken his 1949 Jowett Javelin and arrived instead seated majestically behind the wheel of a 1912 Le Zèbre. This 5.9 h.p. car has been in Major Toler's family ever since it was purchased by his father thirty-nine years ago. Today it runs with a sweetness not always found in later models, and achieves a maximum speed (paced by the Javelin) of 27 m.p.h. There is no self-starter, but the engine is easily started with the handle. There are three forward gears and a reverse gear, but the only instrument is a very large speedometer. A magnificent bulb horn gives a



*Major Toler driving his 1912 Le Zèbre*

warning of the Le Zèbre's approach loud enough to frighten the most determined jay-walker. The car has been preserved as it came from the factory in 1912 in every detail except one: the tyres have had to be replaced from time to time, and are at present of the type used on small motor-cycles.

Major Toler served in the last war with the Glider Pilot Regiment and won the D.F.C. Last year he was made a J.P. for Cheshire.

### *Ladies beat Men at Netball*

On Wednesday, 17th October, at the Synthonia recreation field, a novel, strenuous and, for the spectators, amusing contest took place when the Cassel Works ladies' netball team

opposed a team on Sir Philip and challenge issued by and during the inter-

The ladies had figured towards to three A Synthonia Club interdep service, and to males were almost totally ign Later Lady the technique of playing it. De in the with an early two-goal deficit, the men cently to draw level early in the seco. Welsh dash and fervour of Harry Je cleverly taken by K. S. Jackson. The ga this, neither side enjoying a supremacy or until eventually the ladies scored what prove goal. By a most strange coincidence the gam very effectively controlled by a lady referee, final whistle immediately after this goal was sco. all the players enjoyed the game exceedingly, wards admitting that the pace was very fast and times difficult to control; but with so much femi in evidence it is not surprising that they had difficulty a keeping their eyes on the ball all the time. The ladies' team was Miss J. Archer, Mrs. R. F. Creek, Miss R. M. Loy, Miss P. McCabe, Miss McCann, Miss A. Taylor and Miss J. W. Wilkinson, and the men's team was D. S. Davies, G. A. Henzell, K. S. Jackson, H. Jenkins, R. M. Kewis, D. S. Paterson and R. F. Whicker.

## LEATHERCLOTH DIVISION

### *Fireproof—Proof!*

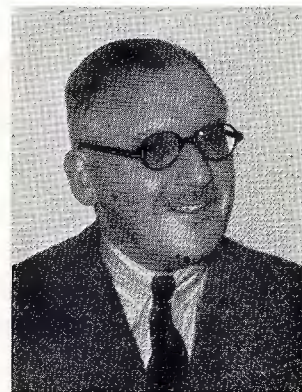
Recently a Manchester housewife—in the middle of her weekly ironing—learned that her child had been hurt. She put down the hot iron on the arm of her 'Vynide'-covered settee and rushed out of the house. She was away for twenty minutes, during which time the iron remained at full heat. The only damage to the settee was a slight burn mark immediately below the iron. The remarkable fire-resistant quality of the material had prevented what might have been a serious fire.

## METALS DIVISION

### *Dr. C. E. Kilmister*

It is with deep regret that we report the death, on 9th October, of Dr. Claude Kilmister, medical officer at Landore Works for the past nine years.

Dr. Kilmister, who succeeded his brother-in-law Dr. Amor (now I.C.I. Chief Medical Officer) at Landore, embodied all the qualities essential in a good works doctor. Friendliness, patience, and kindness, coupled with infectious good humour and a shrewd wit endeared him to all his professional and industrial colleagues. His many patients had reason to be grateful, too, for his skill and genuine personal interest in smoothing the path through treatment and convalescence back to health and full employment. Quick and capable in emergency, he will long be





person in caring for the injured and home-  
vanses. to the work of this well-loved friend  
at the Landore Works Council meet-  
Division Council, when his former  
moment in silent tribute to one of  
officers.

## BEL DIVISION

### Cornet Player

who is an oiler in Bickford-Smith Factory, keen, wiry man with a hobby. He is a first-  
er, and since the age of nine and for nearly  
ne has played the cornet in bands. Today he is  
Camborne Town Band, well known throughout  
particularly so in the West Country, where it has  
air some 175 times. Broadcasting, says Mr.  
den, needs very special care in preparation and rehearsal;  
and he should know, because for a time he was deputy band-  
master.

Playing the cornet well is not easy, but with growing accom-  
plishment there is expanding interest. It is an absorbing  
hobby, and practice demands the sacrifice of many leisure  
hours. The rewards in health and pleasure are, however,  
complete compensation.

The first time Mr. Bawden put a cornet to his lips he was  
scarcely 9 years old. When he was 10 years old he was  
sufficiently experienced to be allowed out with Camborne  
Town Band playing carols at Christmas time.

Playing the cornet in a band did not provide him with a  
living, and like so many other Cornishmen before him Mr.  
Bawden started working in the tin mines. While he was grow-  
ing up through his teens, his skill on the cornet grew with him.  
Then a critical event happened. The Besses o' the Barn,  
probably one of the most famous of all bands, visited Cornwall.  
Young Bawden, thoroughly impressed with this world-famous  
combination and keen to increase his knowledge of the cornet,  
invited the solo cornet players home with him to tea. They  
spoke about the young enthusiast to their bandmaster and  
recommended that he be asked to join them for a world tour  
which was about to start. For such an engagement the band  
needed to increase its playing strength from twenty-four to  
thirty.

Mr. Bawden was given a three months' trial with the band  
followed by a very exhaustive test from Alexander Owen of  
Manchester. He came through the test successfully and signed  
a fifteen months' contract for a world tour with the famous  
band—incidentally, the tour lasted for twenty-two months.

They visited the United States of America, Canada, Hawaii,  
Fiji, New Zealand, Australia and South Tasmania and arrived  
back in this country on 20th December, 1907. While on tour  
the band earned tremendous praise and on one occasion played  
to a crowd of 30,000 at the Cricket Ground in Melbourne.  
Altogether it travelled 50,000 miles. This was a great expe-  
rience, obviously not calculated to limit a young man's  
ambition.

On return to Britain Mr. Bawden found difficulty in getting  
his old job back, and there was no livelihood in band-playing.  
There had been promise of a further world tour with the  
Besses o' the Barn, but a final offer had not come forward.  
Tin-mining in Cornwall was in decline, and attracted to far  
places he left England and went to Pachuca, Old Mexico,

where he worked in the silver mines for a year. While working  
there he received a letter from England offering him another  
world tour contract with the Besses o' the Barn, but the letter  
had been so long in delivery and problems of distance were so  
great that he had to refuse.

Life in Mexico was interesting enough, but revolutions were  
not particularly to his taste, so he went to the United States,  
where as a pipe-fitter he worked in Montana, Arizona, Utah  
and California, getting further experience in silver, copper and  
gold mines. During the twenty-seven years he lived in the  
U.S.A. he was bandmaster of several bands. On his return to  
Cornwall he started in Holmans Foundry and then got a job in  
Bickford-Smith Factory in 1937, where he has worked ever since.

### Mr. W. T. R. Brown

When Mr. W. T. R. Brown, of Ardeer, retired from the  
Company's service on 3rd October he had been with I.C.I.  
and its predecessors for over half a century. Fifty years and  
six months ago, at the age of 14½, he started to work with Hay  
Merricks & Co. Ltd. in the Gunpowder Mills, Roslin, as an  
apprentice cooper. Mr. Brown completed his apprenticeship,  
and during a lull in barrel-making he was drafted into the  
manufacturing side, where he moved from one process to  
another until he had gained skill in nearly all sections of black-  
powder manufacture. When the need arose he was transferred  
to his old trade, and in 1914, on the death of Mr. D. Old,  
under whom he had served his apprenticeship, he took over  
the duties of cooper in Roslin.

He continued in this job for many years and in 1935 went to  
Ardeer, where blackpowder manufacture had been started.  
He worked in the cooperage of Blackpowder Department  
under Mr. William Gill, until wooden cases displaced barrels  
for blackpowder packing. During the second world war he  
was a cooper attached to the Barium Nitrate Department  
in Ardeer. In 1945 he was transferred to the Box Factory,  
where he worked as a disc-planer until his retirement.

### Old-time Visitors

Among the guests to the last Ardeer Factory Saturday after-  
noon "at home" of the summer were three interested and  
highly interesting visitors. They were not strangers to Ardeer,  
although many years have passed since they last entered the  
factory gates. Indeed, Mrs. Currie of Stevenston and Mrs.  
Nicol and Mrs. Steele of Saltcoats started work at Ardeer as  
long ago as 1889, and it is over half a century since they were  
last on the payroll. On this return visit they saw some of the  
parts of the factory they had known in their youth. Naturally  
they saw many changes and found much to commend in the  
new methods that have been introduced in gelatines since they  
left. At Africa House, where they went for afternoon tea, they  
were able to talk with officials and with those who now do the  
job that they did long ago.

All three are fit and well and maintain a keen interest in  
affairs, although their ages add up to 236 years. Mrs. Currie  
is 78, and both Mrs. Nicol and Mrs. Steel are 79.

## PLASTICS DIVISION

### Flowers flown 8000 miles in 'Alkathene' Film

A consignment of fifty white and pink lotus buds was sent  
by air from Calcutta recently for distribution at a display of  
new shoe fashions in the New Bond Street showrooms of Lotus





Packing the lotus blooms in 'Alkathene' film for their long air trip

and Delta Ltd. The lotus quickly perishes out of water, and its export, as far as it is known, has never before been attempted. The buds were carefully packed in the laboratories of I.C.I. (India). Their stems were dipped in molten beeswax to seal in the moisture, and each bud was then sealed in an 'Alkathene' film envelope in which it was protected from crushing by a cardboard cylinder. The envelopes were packed in a crate and flown to London in just over thirty hours by B.O.A.C.

## SALT DIVISION

### Board Changes

#### Mr. W. R. Storey

Mr. W. R. Storey, who has been Production Director of Salt Division since 1948, has been appointed Salt Division managing director. After serving an engineering apprenticeship at Amos and Smith (a subsidiary of Earl's Shipbuilding Company) he studied engineering at Downing College, Cambridge, and joined Brunner, Mond & Co. Ltd., in 1920 on the engineering staff. He was transferred to the works manager's staff in 1926 and became works manager of Wallerscote Works in 1928 and works manager of Winnington Works in 1939. He was transferred to Salt Division as Production Director in 1948.

Mr. Storey has always been a prominent and versatile athlete. In his younger days he played rugby for Hull and East Riding, and Sale Clubs and was the first captain of the Winnington Park first XV. He has won many trophies as a golfer and has been a distinguished playing member of the Delamere and Sandiway golf clubs for many years. He is still

an enthusiastic skier in the winter a summer.

#### Mr. A. Miscampbell

Mr. Miscampbell retired from the director of Salt Division on 1st November 1950. He served in the first world war and attained the rank of Captain before being taken prisoner of war. He joined the Salt Union Ltd. in 1919 as assistant works manager of their Carrickfergus works in Northern Ireland. He was transferred to Stoke Works in 1933 as manager of the Worcestershire district. In 1939 Mr. Miscampbell was appointed a delegate director of the Salt Division board and was appointed joint managing director in 1941. He became sole managing director in 1945.

Mr. Miscampbell is proud of his Irish ancestry and has retained a close interest in Carrickfergus activities. He is interested in golf, is a keen theatregoer and is a member of the Farmers' Club.

#### Mr. A. Ratcliffe

Mr. Ratcliffe, who has been appointed Production Director in succession to Mr. Storey, joined Buxton Lime Firms Ltd. in 1929 after graduating at Manchester University with a first-class degree in chemical engineering. He became responsible for works development and design and paid numerous visits to Belgium, France and Holland in order to study quarrying practice there. In 1944 he visited a number of different engineering and quarrying firms in the U.S.A. He joined the Salt Division as deputy chief engineer in May 1950.

Mr. Ratcliffe is keenly interested in amateur dramatics and has many successes to his credit as a producer. He is also fond of sailing and is an enthusiastic gardener.

#### Mr. R. E. Barton

Mr. Barton retired from his appointment on the Salt Division board on 1st November. He was first appointed a member of the Salt Union Ltd. in 1925 and became a delegate director when the Salt Union was amalgamated with I.C.I. in 1937. Mr. Barton has been a prominent figure in Mid-Cheshire local government for many years and has been chairman of the Winsford Urban District Council, chairman of the Northwich Salt Federation and chairman of the Mid-Cheshire Water Board. He is also a local J.P. and a member





erson on Committee. Mr. Barton is a keen  
ing activities, and Winsford sports  
m, is named after him.

## E. & C.I.

### Springboks

over the country will by now know  
thirty Springboks who have invaded us  
mes, positions in the field and charac-  
They will have noticed that among them  
ame of Fry—one a fast wing forward and  
alf. And these two, apart from being fine  
team, are of special interest to us in I.C.I.  
r close connection with our Company.  
d Denis Fry are in fact the sons of the late Mr.  
who was chief engineer at the Somerset West  
frican Explosives and Chemical Industries Ltd.,  
ur associated company in the Union of South Africa. Stephen,  
the elder brother, is himself an electrical engineer at the  
Somerset West factory, and Denis is a student at the Uni-  
versity of Capetown. At home they both play rugby for the  
Western Province and have already travelled many thousands  
of miles with touring teams in South and East Africa.



*The brothers Stephen and Denis Fry. Stephen is on the left, and Denis, wearing his Springbok blazer, on the right.*

Towards the end of October the team, after playing at Llanelli, came to Liverpool for their match against a Northern Counties fifteen at Birkenhead Park, and some of us in Liverpool had the pleasure of meeting the Fry brothers while they were staying here and of hearing something of their impressions during the first month of their tour.

It was clear immediately that these tourists are, very rightly, enjoying themselves enormously and counting themselves very lucky to be having the experience of a five months' visit to our country and the Continent. One thing which seemed to have impressed them was the weather here, which, owing of course to the extraordinarily fine October, was very much better than they had been led to expect. (We thought it kind to warn them that the autumn weather had not yet shown its hand and would, with fair certainty, come up to their grimmest expectations before long!) On the few occasions when they

had played on wet grounds they had found the conditions due to the heavier soil here very different from those at home, and they had been experimenting with all sorts of boot studs to find the grip on the turf they are accustomed to. They had found among the teams they had met here certain differences between their opponents' styles of play and tactics and their own, and they are giving much thought to the problem of adjusting their own tactics to meet those of their opponents while still preserving their principle of playing an open, attractive game. As regards training, it was interesting to hear that although the team has regular set periods of coaching (with particular emphasis on tactics and closely knit teamwork) and physical training, it is left to the individual members to discipline themselves in keeping fit during the tour. With thirty players in the touring side the usual practice, so far as ordinary club matches are concerned, is for one fifteen to play in one match and the other in the following one. But for international or other important matches the fifteen to play is, as might be expected, chosen for the occasion from all the thirty members. It is one of the few disciplinary measures imposed that before a match the players have to be in bed soon after ten o'clock.

We had thought that, as seemed highly probable, it must be a very rare occurrence for two brothers to be chosen for the same Springboks touring team. But on being asked about this the Fry brothers said no; there had been, they said, eighteen occasions when brothers had been in the same touring side. We suspected that what they told us was influenced by the marked modesty which they showed in all they said. And, in fact, it was discovered later that many years have elapsed since such a thing last happened.

Modesty indeed predominated among many charming characteristics of these two brothers—although perhaps not so apparent to their opposite numbers in the field! The very firm impression we who met them received was that Young South Africans, whose representatives they are, must be a very fine, likeable lot of fellows.

T.J.D.

## THE JANUARY MAGAZINE

In the January issue we go over to four-colour printing and will publish some remarkable photographs of the volcanic eruption in Paricutin in February 1943. These photographs have been lent to the *Magazine* by the American Museum of Natural History. A few of them have already been published in *Endeavour*.

Our main Company article is on the Billingham nylon plant, whose works manager, Mr. K. W. Palmer, has written in simple language a clear explanation of just what nylon is and telling us why it has its unusual properties. His article is illustrated by some more Horowicz drawings.

Next, Mr. Jagger writes on grandfather clocks and explains what are the distinguishing marks of the genuine antique. Lastly, Mr. Kevin Fitzgerald is again a contributor and entertains us with an article entitled "How to Climb Mountains and Influence People."

Readers are reminded that next month the *Magazine* will begin a special supplement for the publication of letters from readers. Letters should reach the editor before the 17th of each month. It is hoped that this supplement will become a lively medium for discussion and exchange of views. Letters should be brief, non-political and of general interest.





# Practical Jokers

By Gordon Long (Central Publicity Department)

*Illustrated by Martin Aitchison*

**T**HERE can be few of us—few males, anyway—who have not been practical jokers at some time in our lives. We serve our apprenticeship at school, popping pieces of carbide into inkpots and filling the classrooms with choking fumes, or leaving a trail of glass stink bombs in the corridors for unwary feet to crush. In our early years, too, most of us suffer the experience of having itching powder rammed down our necks. Pleasantries of this nature are an essential part of that remarkable thing, the British educational system.

I remember some of the things we did when I was a boy in Glasgow thirty years ago. During holidays we often went out to exploit the adult population of our particular suburb. There was no evil intent, nothing more than the experimenter's desire to create, and watch the effects of, unusual situations.

We had, you might say, a test-tube into which we put selected grown-ups to study reactions. Some emerged with dignity and good humour unimpaired, and in so doing earned our everlasting respect, and it was a point of honour with us that they were never brought to trial again. Others showed that the dignity to which they pretended was a mere veneer, something that peeled off under test like bad paint, revealing natures that were sour and surly, if not downright vicious.

We had one game which went under the quite inexplicable name of "flowerpots." To play it you needed rope, and each game meant the expenditure of about twenty feet; but rope was cheap in those days.

The houses in our suburb were mostly flats, and people's front doors faced each other on each side of each landing. These doors were ideally situated for the practice of flowerpots.





... The floor sprouted a chandelier and the ceiling a carpet and chair

We never commonly played on the top floor because the escape route was too long in the event of precautions miscarrying.

Briefly, the game was this. You knotted the rope tightly round the knob on someone's front door and passed its free end across the landing to tie up tightly to the opposite door. The rope had to be taut, otherwise the fun might be over too quickly and an irate householder too soon off his mark in pursuit. Also, the knots naturally had to be really secure. This provided no difficulty, however, for we were all Boy Scouts. We did our good deeds later.

Well, now, with the knots tested and the rope taut, two of the party began pulling the old-fashioned doorbells on those doors with might and main, while the others set up a colossal shout of "Flowerpots! Flowerpots!" In a matter of seconds you would be able to observe one door being opened—but only the inch or so which the rope allowed as it stretched—and only for an instant, for it would soon be slammed by the householder opposite pulling on his or her door to put an end to the bell-ringing and the general fracas outside. Usually we beat our retreat when the tug of war between householders was still in its early stages, in order to leave adequate time for dispersal. We would rendezvous later to repeat the game, or we might go down to the local shopping centre, where, concealed behind the privet hedge of someone's garden, we would play the old one of the thread attached to an empty purse lying invitingly on the pavement.

But pranks such as these are, after all, only child's play. Practical joking, as with all things, is much more of an art, much more complex, as practised by the adults of the species.

I had my first introduction to practical jokers long before I went to school. It was at the home of a female relative somewhere in North London. The other inhabitants of this house were her four bachelor sons—all young men in their twenties and high-spirited in a way that was regarded with indulgence in those cloudless days. Another man was involved, too. He bore for me the honorary title of Uncle Mac, but whether he lived in the house or was simply a frequent caller I cannot say. I have an idea, however, that Uncle Mac was the prime mover in most of the following incidents.

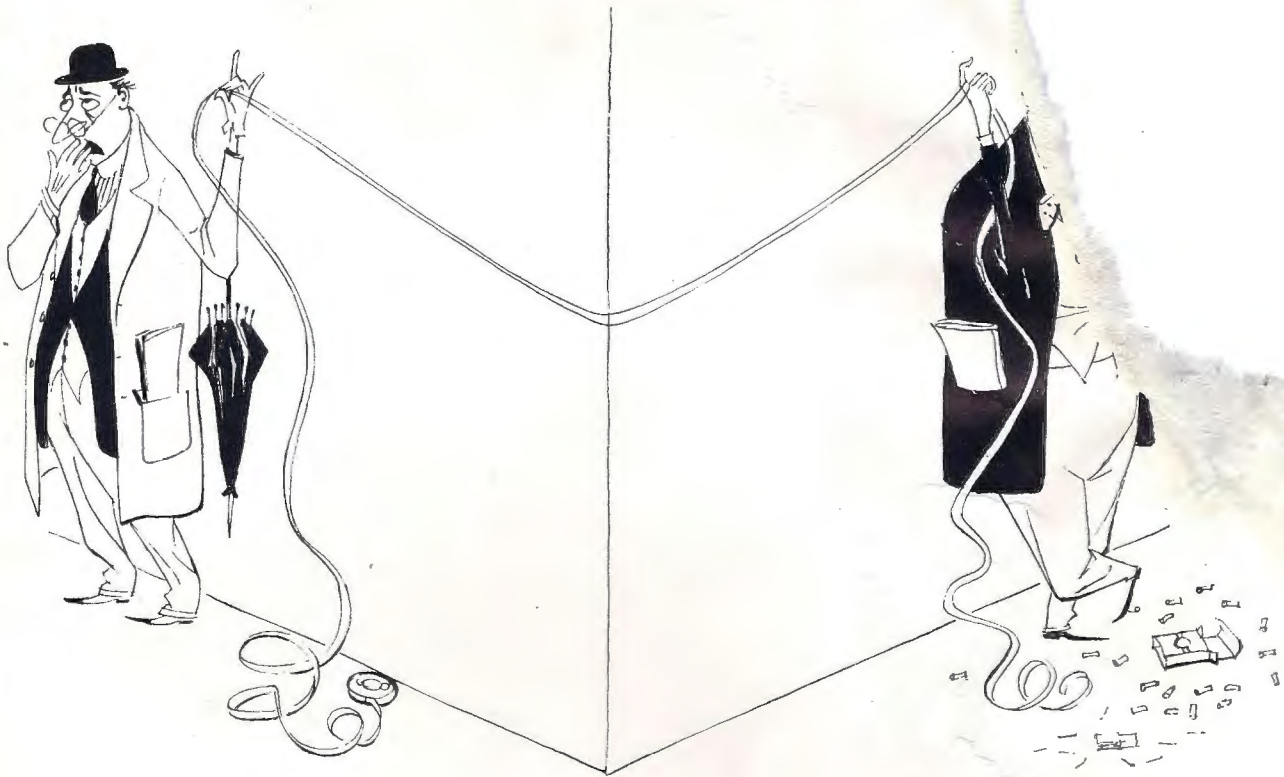
Mac was a born joker. He had given as many hours of study to his hobby as the gardener gives to his roses or the golfer to his short game round the greens. I believe he had a bachelor flat somewhere which I never visited but heard about often enough.

Among the hazards of that house was a room, the ceiling of which was carpeted and had chairs, a table, vases of flowers and other articles nailed or stuck to it. Needless to add, the floor was ceiling white and a chandelier sprouted upside down from the middle of it.

This room was reserved for visiting friends, the one qualification for entry being a state of advanced inebriation, and the room provided endless entertainment for Uncle Mac and privileged friends. I have heard tell of the remarkable effect which this room had upon anyone "one over the eight" who entered it, and once his eyes had registered the situation and passed the necessary information to a fuddled brain. He would drop flat to the floor and proceed to make astonishing efforts to gain the "ceiling" via the walls. The agony was never prolonged, for Uncle Mac was a man of the most generous and kindly instincts.

He and the other young men of the house often stepped out on various adventures, a grievously large proportion of which ended in sundry members of the party enjoying the hospitality





... The average Englishman is long-suffering

of a police station. A typical instance was the case of the bookie's umbrella. They "acquired" it at Kempton Park one Saturday afternoon and later erected it in the stalls of a West End theatre. The show was in progress, and some of the people in their vicinity seemed extremely desirous of seeing it. As the large red and gold umbrella made vision somewhat difficult, a breach of the Peace was officially stated to have been created, and the party were removed from the precincts.

Another incident of like nature resulted from a complaint made by the landlord of an inn not far from Hampstead Heath. This worthy, an ex-regimental sergeant-major, was ungrateful enough not to appreciate the voluntary help of several young men behind his bar. His ingratitude eventually took a violent form, in consequence of which he was forcibly held down on the bar top while one half of his moustache was carefully removed with nail scissors.

To return to Uncle Mac. His *pièce de résistance* was what they called the Sick Surveyor. Mac only worked this on special occasions for the delectation of selected friends, and he carried it out, I believe, on a certain corner of London's Oxford Street. The requirements were a surveyor's tripod stand and one of those measuring tapes that run out off a reel.

Uncle Mac used to descend on the corner about noon, when the pavements were crowded. His companions separated from him and went at once to good vantage points round about. Mac would then go to a point about ten yards short of the corner and take up his station with the tripod by his side.

The next thing was to seize upon some innocent passer-by and to tell him the tale. The tale was that he (Mac) had been

engaged upon taking measurements of vital importance that morning when his colleague had been struck down with illness and removed in an ambulance at the very moment when the crucial measurement was about to be made. Would the passer-by co-operate just for a moment to allow Mac to complete the measurement? Mac was, of course, a difficult man to refuse and rarely failed to get the help needed. He would leave his victim holding one end of the tape meticulously against some scratch on the wall, and disappear round the corner, carrying off the tripod and paying out the tape as he went.

Ten yards round the corner and out of sight of Victim No. 1 he would seize upon another unfortunate to whom he would tell the same story. Finally he would disappear into the crowd and rejoin his cronies, leaving these two strangers, out of sight of one another, zealously holding his tape to the wall.

The average Englishman is long-suffering, but I believe it was proved that thirty minutes is the outside limit to which his patience can be stretched. After that period, during which all the human emotions, from keen sympathy to violent anger, were seen to flit across the victims' features, one or the other would crack, and would proceed round the corner in high anger to discover not Uncle Mac, but another stranger who was in a peevish condition and in no mood to accept harsh words from anyone. I believe that the Sick Surveyor's "assistants" often came to blows, requiring the intervention of the police. The police were always around for any performance of the Sick Surveyor, and could be relied upon to see that no one interfered until it was finished!





*Jock and Jean, the swans of Westquarter Works, Nobel Division, with their family*

(Magazine Photo)